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*Devoted to
Studies in the Social Sciences
and Related Fields in Mississippi*

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The Social Science Research Center
STATE COLLEGE, MISSISSIPPI

Announcement

General Education Workshop in Social Studies at Mississippi State

July 12 to August 12, 1954

Carrying out the wish of the Mississippi Association of Colleges that workshops in general education be offered during the summer of 1954, Mississippi State College has arranged to offer a one-month social studies workshop coinciding with the second summer term at the college. The workshop will involve the preparation of a syllabus on the freshman level for the course in world civilization recommended by the social science section of the summer conferences in general education held during the past three years. Attention will also be given to the problems of teaching this course.

For those desiring it, six semester hours of graduate credit may be obtained for the workshop course. This credit may be applied to either the Master of Science degree or the Master of Social Studies degree at this institution. The regular summer school fees will apply (\$36 for matriculation for a full-time program of 6 hours and \$15 room rent for those staying in the dormitory). Meals may be obtained at reasonable rates in the college cafeteria. It is expected that a number of colleges and junior colleges will be able to support this program by contributing toward the expenses of those who attend.

Here is an excellent opportunity for putting general education into action. It is also a fine chance to further professional development. If you plan to attend or wish further information, please fill out the blank below. The success of the project depends on your support.

Dr. John K. Bettersworth
Box 148
State College, Mississippi

I am planning to attend the summer workshop on "civilization courses." I wish to be included among the tentative registrants for the class.

I am considering attendance at the summer workshop. I desire further information as follows:

Name _____
Institution _____
Address _____

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*The Challenge of Scholarship
to Higher Education in Mississippi*

by

John D. Williams

This occasion is centered around the respect and admiration for those who excel in scholarship -- scholarship that is being officially and appropriately recognized by a great institution, an institution that has our loyalty and love for what it has done and our devotion and dedication for what it is doing and will do for our state and nation, and for this generation and those to come.

The land-grant college and the state university are unique to America. In all but eighteen of our states they are combined into one and the same institution. Dr. John K. Bettersworth in his *People's College -- A History of Mississippi State* gives the story of the developments leading to the establishment of the two separate institutions in Mississippi. When old A. & M. College was chartered, it was debated that the state could not afford two first-rate institutions and that there would be needless duplication. That debate has been going on ever since. Meanwhile, both institutions have grown into first-rate institutions and, in spite of the 100 miles that separate them, there is increasing evidence of mutual support and cooperation.

The Agricultural and Mechanical College of Mississippi was born of an unwavering faith in democracy. It was nurtured from humble beginnings through the trials and torments of a torturous struggle for recovery from a devastating war.

All knowledge has become the province of these two sister institutions, State College and the University of Mississippi. No human problem is too remote, no learned profession too recondite. Always they work for the advancement of human welfare. Their discoveries have drained the swamps and made them flourish, and have made the earth give forth its treasures. In farm and field, in hospital and school, in the home and on the highway, in the marts of trade and finance, in the halls of government -- all have been aided by the republic of minds that inhabit these campuses ever seeking to find and give light.

Higher education is our state's best investment. The money and the unselfish efforts of thousands of men and women that have been invested in it have been returned many hundredfold: in human progress, in wealth, and in human service.

Chancellor Williams, of the University, was the featured speaker at the annual scholarship day celebration at Mississippi State College on March 9. The above address was delivered at an afternoon convocation in the auditorium of Lee Hall.

On scholarship day we honor those who have demonstrated superior scholastic ability. What I shall say is of great concern to these students especially. The future of our state depends more upon you and others like you than upon any others. You are being honored today because you are alert to your surroundings and to the responsibilities that you face. You are just beginning to give careful study and thought to the serious problems facing our state. One would not be surprised if the dimensions of the issues before you bring moments of uncertainty, frustration, and even fear. You are young -- and strong -- and have the innate courage of youth. Grave questions have troubled youth before, but their faith in God, in the dignity of man, and in the future of our country sustained them as it will you. You have faith.

Faith knows no fear of truth when its innermost conviction is that God is Truth. You have in this land of ours what John Milton noted as one of the most passionate desires of the human heart when he wrote, "...the liberty to know, to utter and to argue freely according to conscience, above all other liberties."

Today we hear many voices, from various interest groups, and often they are in conflict. Some would have us retrench, limit, and restrict state services; others would have us remain as we are; and still others would increase and improve certain state services even if those services cost more money.

The typical family in Mississippi believes in good schools. That means good teachers and adequate buildings and equipment. The parents are sacrificing to educate their children, and they are resenting and will continue resenting anything less than adequate school facilities.

These people would prefer to send their sons and daughters to the institutions of higher learning *within* the state. However, you and I know that until the last few years increasing numbers of our college youth were leaving Mississippi to attend institutions which they believed superior to our own. The progress of the university and colleges since World War II has slowed down the exodus, but we must improve our institutions much more to gain our rightful position, always remembering that the student who takes his degree *outside* the state all too seldom returns to Mississippi to make his contribution to society.

We, the students, the legislature, the alumni, the board of trustees, the faculties and staffs, have a stewardship we share. The people of our state have given us specific responsibilities regarding the institutions of higher learning. For the Governor there is a time when his attitude, his actions, his decisions are most important for their advancement; for the legislature, the alumni, the board of trustees, the heads of these institutions, and the faculties, there is also a vital time. We must all answer to the same people -- you and I. The time is coming soon when the welfare of our institutions and the future of

our state for the next generation will depend upon these decisions. Those of you who know the history of these institutions and the history of our state will recall those men and women, the governors, the legislatures, that have written their names in the hearts of our people for all time because they in their wisdom, their sacrifice, and their struggle have made these schools what they are today. Certainly, I want to recognize as among this group to whom our people will always be grateful every state administration and legislature since World War II. Before that the record is somewhat irregular. And, just as you will recall those who have helped to build, you will also recall those who either did nothing or brought periods of retardation.

The keenest competition in the world today is for brains -- people of unusually strong mental ability. States are making increasing efforts to hold the bright young men and women. They are successfully attracting youth of outstanding ability from those states not yet alert to the situation or, if alert, not willing to make the effort to hold them. An economic recession would make this competition even keener. It is common knowledge that in times of economic stress the income goes to those states and industries that have the brains to create new products and processes and to make more efficient those already in existence. Regardless of whether business is going to be better or worse, our state cannot afford even to hesitate in its continuing march of progress, in its program of higher education that was started at the close of World War II. As I go from the Tennessee border to the Gulf and from the Alabama line to the Mississippi River, I find that our people are realizing that the future of our state, its share of the total national income, its rising per capita income, its successful industrialization, and its improvement of economic conditions generally, are in direct ratio to our willingness to provide opportunities for the development of our people -- our young people -- especially those of you with unusual ability to create, to imagine, to know how to calculate the risk, and to have the courage to take it. Yours are the brains that will find new uses for cotton and develop new processes and industries in our state if we do our part to keep you here.

Our people want their doctors to have the opportunity to keep up with the rapid developments in medicine, surgery, and the treatment of the ill. Superior medical care does not seem so important until a near relative or friend dies because the family doctor did not understand the latest in the use of antibiotics, isotopes, or whatnot. As our state moves gradually, and we hope surely, toward a balanced economy, our lawyers will need to learn of law in new fields such as corporation taxes, workmen's compensation, and labor. We need more and better teachers, nurses, engineers, farmers -- and all the rest that only higher education in our own State can provide, or is even interested in providing.

Our people know that the efforts that are made to provide the money to support these services of education and research attract outside money. In this biennium the board of trustees was able to allocate but \$25,000 for re-

search by State College. This small amount attracted \$182,993.34 from other sources. Because our state has had so little to spend on facilities for higher education, we are one of two or three states receiving less than \$500,000 from the Federal government for research. The reason is that our facilities are just that inadequate.

No informed person can truthfully say that Mississippi is now investing, or has ever invested, as much as it should in its program of higher education. A review of appropriations for the institutions of higher learning by other states reveals none spending less per capita than Mississippi. And every legislature that met last year increased its appropriations for operation of its institutions.

No one who has visited the Universities of Louisiana, Arkansas, Tennessee, and Alabama, Auburn, the University of Mississippi and State College can avoid the conclusion that while there has been great progress made in all of them since the war, the University of Mississippi and State College have done well to hold their own. I am told that we estimate that between 100,000 and 125,000 Mississippians will be visiting our campuses this biennium. Many of them will visit our neighboring institutions as well.

Ignorance is more costly to a state than education. The loss from poor farm practices, inadequate medical and hospital care, ill-informed legal counsel, sloppy business practices, and all the rest will cost our state many times more than we are now spending on higher education. It is interesting to note that with all of the pressure for a reduced national budget, President Eisenhower is recommending substantial increases for educational and research activities. He proposes to increase the funds for federal agricultural research from \$6,000,000 to \$11,500,000; for grants-in-aid to states for agricultural research from \$13,000,000 to \$19,000,000; and for cooperative agricultural extension work a phenomenal increase of \$7,064,721. Moreover, the National Science Foundation appropriation was increased from \$8,000,000 to \$14,000,000. Those institutions with the better facilities will be invited to participate in this program.

General Motors, Du Pont, General Electric, and others have found that their profits depend primarily on their expenditure for research. In times of business depression an increasing proportion of this budget goes into research. Our Southern states know what this means. North Carolina is now the heart of the furniture industry, not Grand Rapids, Michigan. Why? Because industry went where creative minds, sparked by a great university, developed new designs that appealed to more people. The big money in North Carolina began thirty years ago to develop the state's youth by investing heavily in the state university and the state college. The Duke fortune went to old Trinity College, and now the Reynolds money is going to Wake Forest. What higher education has done for the people of North Carolina it can do for Mississippi. All that needs to be done is to make the investment in our own youth.

The people of Mississippi are expecting us to deliver these services to them. They know that without them the state is hopelessly handicapped. Of all the issues facing the Governor and the Legislature this is the clearest, the one on which judgment can be made most accurately.

Our Governor said recently before the Carroll County Chamber of Commerce that "we must have still more industry if we are to meet the needs ahead. Mississippi's greatest resource is its youth; and agriculture will not furnish sufficient employment to keep this resource at home." He is basically right. It is also true that industry and agriculture together will not keep our young people at home. The opportunity to develop to their fullest capacity will keep them. When we do that, you outstanding scholars and others like you will create our industries, services, and vocational opportunities. The only substantial growth our state can have is from that source. If our people are willing to sacrifice by giving tax exemptions and other inducements to promote industry, is it not fair to assume that they are much more willing to invest in our own youth so that the most capable young people will remain in our state to create, to develop, to build new opportunities in both agriculture and industry?

Our university and colleges in Mississippi need \$13,769,205.12 for 1954-1956 for general support. This is an increase of \$3,630,000 over the 1952-1954 biennium. For all purposes -- general support, agricultural extension, experiment stations, regional education, negro scholarships, the Gulf Coast Research Laboratory and the state medical center -- the need is for \$20,040,000. What it comes down to is this: Can our people afford to pay a little less than ten cents a week per capita to insure better advice on farm practices, to receive better medical care and improved hospitalization, to slow up the exodus of our brightest young minds to other states and regions so as to have them create new business and industry in Mississippi, to encourage hundreds of thousands of dollars from outside sources to be invested in our university and state colleges, to hold our own in per capita income as related to that of other states and to increase it if possible? You know as well as I that the people cannot afford to do anything less at this time, and we shall be weighed in the balance of public opinion and found wanting if our stewardship should deny them this opportunity. Ignorance is more costly to a state than education. Let us have the courage to express in a substantial way our faith in our youth and the future of Mississippi.

*Aspects of Articulation and Coordination
Between Junior and Senior Colleges in Mississippi*

by

T. K. Martin

By way of introducing this subject, I must admit with unseemly haste that I am innocent of a full understanding of all the difficulties impinging on it, that I am aware of the fact if the finger had not been put on me, some other luckless soul of our group would have performed this duty, and that in the course of twenty minutes or so it will be over and we can then pass on to more fruitful portions of our agenda.

Ignorance on this subject makes me bold to pass for a moment to another on which I have definitive information, a subject of great interest to a group of registrars. It has to do with the qualifications of the job of registrar at Mississippi State. Those qualifications may or may not be applicable in your institutions. I rather think that with perhaps one or two exceptions they will not be. But I know the qualifications of the person holding the job at Mississippi State College.

I had been on the campus only a short time when during a vacant period the late Dr. David Savage came by the office to chat. We talked of folklore in his native Webster and in my native Tippah County for some time. Finally, when he rose to go he paused in the doorway, turned as if in afterthought and said, "Well, young man, we are delighted to have you on our campus. You are a worthy successor of Ben Hilbun as registrar. I think you possess those qualities and that experience which equip you admirably for the job."

I thanked him as graciously as one thus flattered might. I felt a warm glow of good fellowship and began to have a more than passing feeling that Dr. Savage was a keen and accurate judge of character. He made one or two other complimentary remarks as I sat there basking in the light and warmth of his high regard, I being blown up somewhat in the manner of a toad. In the course of his praise Dr. Savage used the word *qualifications* several times; so many times, in fact, that I was moved to say, "Dr. Savage, you mention qualifications of a registrar. To tell you the truth I did not know that a registrar had any particular qualifications."

"Oh," he said, "don't you know? When Ben Hilbun was moved down the hall, the Board of Trustees set up two criteria for his successor, and you

Dr. Martin, who is administrative assistant to the president of Mississippi State College and sometime -- or alltime -- registrar, delivered this paper before the Mississippi Association of College Registrars at the M.E.A. meeting in Jackson, March 17, 1954.

meet both of them. One was that the man should be a native of Mississippi, and you are. The other was that he should be at least as ugly as Ben Hilbun, and I'll be darned if you aren't uglier than he is." I should not imply that these qualifications are the common denominator of registrars as a group, but I have made it clear how I got my job and how I hold it.

As I approach the necessity of getting to the subject at hand, I am reminded somewhat incongruously of an examination question and its answer. A question in a biology class was: "Compare the respiratory system of the frog with that of the grasshopper." The answer given by a rather forthright student was: "There ain't no comparison; the frog's got it all over the grasshopper."

In somewhat the same vein, one might say as far as the transition from junior to senior college is concerned "There ain't no problem. There will always be some senior college which will take the student in if he has attended junior college, or if he is over twenty-one, or if his pulse is beating, or if he is still slightly warm." If there is doubt of this fact, one may answer his questions by listening in on any of the conversations or speeches now being made by our college representatives as they visit the junior colleges in the guise of counselors, guests, distinguished visitors, and the like.

However, quite apart from the recruiting efforts of the senior colleges, in which there is a large element of the ludicrous, there are facets of this junior-senior articulation business which might well command our serious attention. These come most easily into focus if we reduce the relationship of the sophomore and junior years to their simplest form, then add back to this total the complexities of our setup in Mississippi.

If all our students studied only one subject -- reading, shall we say -- in one locality; if our semantic concepts were perfectly meshed so that a given word represented one and only one idea; and if the curriculum in reading were fixed, stable, and unchanging -- our problems of relationship and articulation would be reduced almost to the vanishing point. And, of course, our jobs as registrars would also be reduced toward the vanishing point, and some of us would have to get out and go to work.

As our setup in Mississippi differs from the oversimplified one just referred to, our problems emerge as do the four points of this paper: (1) the complexity of multi-curricular choice; (2) the geographical space which separates one institution from another; (3) the difficulty of our communications barriers; and (4) the problems surrounding the one constant in higher education -- the ever-present flux or change.

The function of the Junior College has been described as being three-fold: (1) it offers two years of work in one or more standard collegiate academic curricula; (2) it may offer one or more years of post-high school in-

struction in curricula that are terminal in nature; and (3) it may offer certain years of high school instruction. The second and third functions present no difficulties of coordination with the senior colleges, since the senior colleges would hardly enter the picture at all. The first function, that of offering two years of work in one or more standard collegiate academic curricula, may encounter difficulty; and I suspect most of us would agree that the difficulties are in direct relation to the variety of senior college curricula the junior college aims to prepare for. Thus curricular troubles are compounded, as or if the junior college seeks to be all things to all people, as it almost inevitably must.

Over the years there have been those who felt strongly that curricular proliferation in our senior colleges might well be delayed until the junior year, that the freshman and sophomore years should be made uniform in all our colleges. Such an arrangement would greatly simplify the matter of transition into senior colleges. Not only that, it would doubtless allow greater fiscal economies in the administration of our junior colleges. As "general education", that liberal common denominator of our collegiate effort, we should achieve a uniformity that would reduce the necessity for license and elasticity in describing our first two years as pre-this, pre-that -- pre-anything you want to the point of nausea, if not mendacity.

In 1951, Dean Aubrey McLemore, who is conversant with the problem, made the following proposal:

Perhaps the colleges could agree to accept the first two years of a college program as meeting the general education requirements and to set aside the last two years for specialization and the election of interest courses. If this policy were adopted it would enable a student in the freshman and sophomore years to complete the general education program his institution was best fitted to provide. This should make it possible to develop in each institution a strong program built around the faculty and equipment available. It would keep the students in their freshman and sophomore years from taking specialized programs, it would limit their vocational training, and it would strengthen the available programs through concentration of resources.

Scarcely had the echo of this proposal died, when assorted administrators raised their voices in negation, denying that such program is feasible in agriculture, engineering, pharmacy, pre-medicine, pre-dentistry, and the like. These gentlemen pointed out that, while the broad training of general education is highly desirable in the several professions, it is impossible to build a complete specialized professional program on a state-wide uniform

lower division program -- that is, on two years of general education, unless our four year curricula should be increased in length. And who can argue with the professionals?

If the professional people do not or cannot release that sophomore year, we must admit that there is little concern with the freshman year; and if the junior colleges continue to seek to train pre-professional students through the sophomore year, we have somewhat of an *impasse*. So, the proliferation of the sophomore year is still with us. Practically, our problem as registrars, then is to do the best we can with what we have, to set the individual student safely on the limbs of learning at the point they branch off from the common body of knowledge. Thus we leave the first point -- by the same door we entered.

The difficulties of spatial separation present few problems and really are of minor importance to a group of registrars. We shall, therefore, pass them up with a cursory remark or two. Verily, the shadowing wings of our senior colleges are wide. Paraphrasing and desecrating words of Holy Writ, we observe: "How oft would we have gathered you under our wings but ye would not because the junior colleges would not let you or us." And if you do not believe that the willingness exists just accept the invitation already extended to listen in on any of the assorted senior college representatives currently visiting high schools and junior colleges.

As indicated earlier, the senior colleges can and do make it quite easy for students to move from junior colleges to senior colleges, insofar as applications, transcripts, admissions, orientation, and the like are concerned. We really overcome the problem of space by bringing the senior college to the junior college campus, to the local community -- its churches, and its homes.

It strikes me that one possible obviation of the difficulty of space might lie in making it a felony for senior college representatives to be caught on junior college campuses; thus allowing the junior colleges to arrange for or permit trips on Saturdays by groups of students seriously interested in a given senior college. Such an arrangement would certainly serve to reduce the high-pressure proselyting that, I am told, obtains in our recruiting efforts.

Seriously, I believe one junior college at least does follow such practice. At least it did on one occasion, sparked by its registrar. And the results were gratifying indeed, as far as we were concerned at our institution. So much for the aspect of things. It should be observed in leaving this point that students seem to have less trouble in negotiating distance than we would imagine. At least, they seem to have little difficulty in getting home every week end, whether they go merely across the street or across the state.

In *Alice in Wonderland*, Humpty Dumpty is credited with saying something about like this: "I make my words mean what I say, and I pay 'em off

every Saturday night." As representatives of our colleges, we registrars are not so fortunate, not because we lack facility of expression but merely because we must express for our institutions rather than for ourselves individually.

I have in mind the two primary vehicles of our communication among registrars: the college catalogue and the transcript. At Mississippi State we have a standing offer of a bachelor's degree for anyone who can read and interpret our catalogue in agreement with the intent of the policy-making group which directs its preparation. Needless to say, we have had no takers. Transcripts, since they are weighted more in terms of symbols, present less trouble. Yet, from where I sit, the only request I might make is that some of us should quit trying to economize on photostatic supplies and send out transcripts that do not require 4-D glasses and a microscope to read.

I think we can nibble on the verbosity in our catalogues and come out with material more clearly expressed, not to mention certain fiscal savings. Incidentally, and by way of tooting our own horn at State, we nibbled \$1,200 off the annual cost of our catalogue by reducing the number of words devoted to the description of courses and by requiring a degree of uniformity in these descriptions.

A more important and somewhat neglected means of communication between junior and senior college registrars is letter writing. Many discrepancies can be cleared up -- and are -- on the basis of letters about individual cases. It is gratifying that we are known to each other and, therefore, can feel a certain freedom in questioning one another.

Finally, we come to that proposition of changes in curricula and their influence upon our counseling of students. This proposition revolves around the question of whether a student who begins a given curriculum -- whether he begins it in the junior college or in the senior college -- can be assured of graduation based upon the requirements in the catalogue *when he began*. This question is not new to any of us; and although many answers have been given in the affirmative, I am not at all sure that such is the correct answer. If the senior colleges would restrict themselves in such a fashion, it would allow a student to be graduated under the requirements in effect at the time he entered. All curricula would of necessity become static. The curriculum in agriculture at Mississippi State College might thus be exactly the same curriculum set up in 1880 by the founder of the institution.

Changes are vexing, particularly to those of us who must check students for graduation. Some of them are needless and should be resisted, but the whole idea of change presupposes changes for the better.

In our institution we have reduced the matter to a statement about like this: "No change in a curriculum will be required of a student retroactively." This is to say that a student who has progressed through his sophomore year

will not be required to go back and pick up any course changes made in the freshman and sophomore years of his curriculum. He is required to follow the changed curriculum only in his junior and senior years.

I fear -- I know -- that these vagrant thoughts have produced nothing new. Their viewpoint has presupposed that there are very serious problems of articulation and coordination besetting the registrars of Mississippi. Actually this is not the case. I think we get along in fine shape and do the job well. In closing, I return to my biology student and still say with him "There ain't no problem" -- no big one at least.

American Gothic:

THE STORY OF THE PHILADELPHIA CENTENNIAL OF 1876

by

NANCY KIZER

Part II

IV. THE AMERICAN INVENTS

Evidence that the years from 1776-1876 had been a century of progress lay not in the Main Building or in Memorial Hall. Because this nation's development had been along materialistic rather than artistic lines, the tangible results of the United States' triumphs were seen in Machinery and Agricultural Halls and their annexes.¹ As one *London Times* correspondent, on viewing the 480,000 square feet of the American machinery exhibit, exclaimed, "The American invents as the Greek sculptured or as the Italian painted: It is genius."² W. P. Garrison put it more prosaically by stating that "inventiveness is a habit with Americans."³ In either case the United States Government Building at the Centennial provided evidence of this in the models of 5,000 patents issued between 1836 and 1876.⁴

This American genius was evident in the finest collection of machinery ever before displayed.⁵ It was rivaled, but not equalled, in size or variety, only by the exhibits of the British Empire, then the world's leading manufacturing and exporting center.⁶ "Machinery Hall would be barren without American machinery," remarked one American who then further expressed his national pride by boasting that "ingenuity and perfection" American machines surpassed "anything the insular brain had conceived."⁷

The most spectacular of all the machines at the Centennial was designed, manufactured, and operated by an American, G. H. Corliss.⁸ This was the giant 1600 horsepower Corliss engine, which provided the motive

Mrs. Kizer's account of the Philadelphia Centennial is based upon her M.S. thesis at Mississippi State College. Part I appeared in the January issue of the Quarterly.

¹ Hicks, *op. cit.*, p. 114.

² Walker, *op. cit.*, II, p. 15.

³ W. P. Garrison, "Machinery," *Nation*, XXIII (November, 1876), p. 283.

⁴ "The United States Exhibit," *Nation*, XXIII (October, 1876), p. 238.

⁵ G. S. Morison, "Machinery," *Nation*, XXIII (July, 1876), p. 55.

⁶ "Exhibition," *Encyclopedia Britannica* (New York, 1911), p. 68.

⁷ W. D. Howells, "A Sennite at the Centennial," *Atlantic Monthly*, XXXVIII (July, 1876), p. 96.

⁸ William A. Mowry and Arthur May Mowry, *American Inventions and Inventors*, (New York, 1910), p. 181.

power for the machinery at the Centennial.⁹ The engine, which stood forty feet high, had a forty-inch cylinder with a one hundred-twenty inch stroke, and cost some \$200,000 to construct.¹⁰ Some 8,000 machines in Machinery Hall, "representing the processes of one-half the important manufacturers in the world were set revolving by [its] miles of shafting suspended throughout the building."¹¹

Even though Machinery Hall was protected by fire alarms and a number of Babcock extinguishers, the boilers supplying steam for the Corliss were placed in an out-building just south of Machinery Hall itself as a safety precaution.¹²

Fire was not, however, the only hazard presented by the Corliss engine. Entirely unused to such a gigantic machine, sensitive spectators were aghast at the sight of the engine in operation.¹³ One impressionable young lady fainted with what was generally supposed to be sheer awe at the spectacle although at least one witness felt that the red bow in her hair was "the straw that broke the camel's back."¹⁴

The delicate young lady was not the only visitor who was profoundly impressed. The grand climax of the Opening Day ceremonies was reached when President Grant and Dom Pedro of Brazil opened the throttle that set the wheels of the Centennial in motion.¹⁵ William Dean Howells marveled openly at the "hoarded power of the giant Corliss engine."¹⁶ Fifty years later William Lyon Phelps could still recall the "Corliss engine, which was the biggest I had ever seen," Phelps also remembered that its owner "would not permit it to be run on Sunday."¹⁷

Rivaling the Corliss for its designation as the "wonder of the age" were the two Andrews centrifugal pumps in the Pump Annex.¹⁸ To persons best acquainted with the old oaken bucket and the hand pump on a cistern, the cascades produced by the pair were nothing short of awe-inspiring. Aptly termed the *Niagara* the two pumps raised 30,000 gallons of water a minute to a height of fifty-two feet to provide a magnificent waterfall. In sixteen minutes flat the two Andrews pumps could empty the 500,000 gallon tank used to show the working of the various types of pumping machinery at the Centennial.¹⁹ Located in the Schuylkill was an even more powerful pump, the Worthington Duplex,

⁹ *Visitor's Guide*, p. 11; Trout, *op. cit.*, p. 43.

¹⁰ Mowry, *op. cit.*, p. 181; *Visitor's Guide*, p. 11; Trout, *op. cit.*, p. 98.

¹¹ Trout, *op. cit.*, p. 43.

¹² *Ibid.*, p. 97.

¹³ Partridge, *op. cit.*, p. 114.

¹⁴ "Characteristics of the International Fair: Number 1," *loc. cit.*, p. 91.

¹⁵ Partridge, *op. cit.*, p. 114.

¹⁶ Howells, *op. cit.*, p. 93.

¹⁷ Trout, *op. cit.*, p. 224.

¹⁸ Partridge, *op. cit.*, p. 115; Ingram, *op. cit.*, p. 212.

¹⁹ *Ibid.*, p. 212.

which supplied the Centennial with water. As obscure as the Corliss was conspicuous, its functions were vital to the health and well-being of the Centennial.²⁰

Steam supplied the motive power for all these mechanical monsters as well as most of the other latest types of machinery. A small copy of the Corliss was the Baxter engine, which supplied power for the Woman's Pavilion.²¹ There were also steam hammers, steam road rollers, steam locomotives, and even a portable steam engine designed to burn straw in the agricultural machinery exhibits.²²

Providing dramatic contrast of the old with the new in American motive power, a few companies exhibited windmills, and in Agricultural Hall a windmill of the type used in the eighteenth century was set up complete in every detail.²³ Entirely oblivious to the picturesque aspects of these ancient landmarks, Ingram noted that wherever they creaked the country-side suffered from an economic blight. Here was the still typical American feeling that joyfully condemned superior aesthetics for superior utility.²⁴

In the realm of power, superior utility was only beginning to be dreamed of. Electrical power was termed by the judges a "special feature of the Exhibition," but little did they dream that it would revolutionize the American scene.²⁵ To the Centennial visitors steam seemed so safely entrenched as a source of motive power that the new electrical devices seemed little more than rash attempts to start a fad. Partridge sums up the general reaction of the public toward electricity in his description of the attitude of visitors toward the electric motor when he said, "People passed by without noticing the electric motor which was driving a small Pump. A thousand dollars invested here might have made a millionaire. But who was there that had any use for a pump driven by an electric motor."²⁶ "No one could answer -- not even the judges," to whom electrical engines were inefficient objects with a limited field of usefulness, as witnessed by their report that such an engine might be "successfully applied in certain cases in which the expense of power is a secondary consideration, such as, for example, the driving of sewing machines and giving rapid motion to certain philosophical instruments for experiments in light, electricity, etc..."²⁷ So far as can be ascertained, no one emerged from the Centennial richer for the sight, except possibly Thomas A. Edison, who was a frequent caller at the Electrical Building.²⁸ Perhaps the future Electrical Wizard was interested in the primitive form of one of his later inventions, Professor Moses G. Farmer's electric light, or the French Gramme

²⁰ Morison, *loc. cit.*, p. 55.

²¹ Ingram, *op. cit.*, p. 98.

²² *Ibid.*, p. 307; Walker, *op. cit.*, pp. 93, 248, 354.

²³ *Official Catalogue*, II, p. 104; Ingram, *op. cit.*, p. 256.

²⁴ Ingram, *op. cit.*, p. 257.

²⁵ Walker, *op. cit.*, VII, p. 335.

²⁶ Partridge, *op. cit.*, p. 116.

²⁷ Walker, *op. cit.*, VII, p. 338.

²⁸ Trout, *op. cit.*, p. 245.

Magneto-electric machines which produced electric lights.²⁹ According to Sawyer, Farmer's outfit consisted of a generator and one arc lamp with two rectangular carbons, the arc moving between them, as they were automatically adjusted.³⁰ Not so discerning as Edison, "People chuckled over it. Funny way to make light better give them a good old kerosene lamp," or better yet one of Archer and Pancost's elegant new gas chandeliers.³¹ Ingram and the Atlantic reporters who commented from time to time on everything from a whistle made from a pig's tail to Oriental art were strangely silent about both of these inventions, because even they, who saw almost everything and talked it, failed to be interested in these unimpressive novelties. The judges, however, acknowledged that the Gramme machine might "possibly have commercial use for town and house lighting in the future."³²

The old, the new, and the novel were nowhere placed in closer juxtaposition than in the transportation exhibits. For private transportation, the horse still supplied the motive power as he had for ages past, but there was a strong contrast between the great lumbering coach that had borne Washington and the "light, fancy, practical" product of the Dexter Spring Company conceded to be the fastest and most comfortable style of private vehicle.³³ Hetfield and Jackson, a New Jersey firm, won a medal for the superior excellence of their sulky.³⁴

Although the United States "took the palm" for the lighter styles, she could not equal the heavy household carriage or "traveling coach" produced by the English. Some of these "Derby and Epsom" coaches were designed to carry ten to fifteen persons in comfort and convenience for long distances.³⁵ The American deficiency might have arisen from the fact that greater distances, poorer roads, and the rapid growth of the railroads had rendered such coaches impractical in the United States. Only one American firm, Abbott Downing Company, of Concord, New Hampshire, won an award in this class, with a coach design for use on rough roads.³⁶

For transportation in extremely cold climates, the Canadians excelled the Americans in their exhibits of sleighs. These, equipped with tiny portable charcoal stoves showed that "they [the Canadians] undoubtedly understand how to provide for the 'creature comforts' of mankind," as one commentator put it.³⁷

²⁹ Walker, *op. cit.*, VII, p. 458.

³⁰ Trout, *op. cit.*, p. 244.

³¹ Partridge, *op. cit.*, p. 116.

³³ Ingram, *op. cit.*, p. 251.

³² Walker, *op. cit.*, VII, p. 459.

³⁴ *Report of the New Jersey Commissioners of the Centennial Exhibition* (Trenton, 1877), p. 368.

³⁵ Ingram, *op. cit.*, p. 415.

³⁶ Walker, *op. cit.*, VI, p. 152.

³⁷ Ingram, *op. cit.*, p. 416.

Harnass and saddles of all types were displayed.³⁸ Again a number of prizes went to American producers.³⁹ The horse still held his own, too, for public travel within a city. The first street railway line of this type had been developed in New York in 1832 and had spread to England in the sixties. The present form of a double-ended car was first used by American street railways about 1860.⁴⁰ Since it was the heyday of the horsecar, a number of one- and two-horse trains were shown.⁴¹ Of peculiar interest was a new patented starter for these vehicles intended "to relieve horses of some of the strain," and also to add "to the safety of cars running down hills as it [had] already done on the Atlantic Avenue Railroad."⁴²

Unlike the horsecar, the bicycle was not pioneered by Americans. Under the nickname of "bone shakers" they had been widely exported by the Coventry Sewing Machine Company of England. A bicycle with wire-spoked suspension wheels had been shown at the Crystal Palace in London. In 1869, the "two-wheel contraption" called the bicycle was produced successfully in the United States.⁴³ After 1874, the normal wheel height had risen to 54 inches.⁴⁴ One of W. S. Rabbaugh's memories of the Centennial was of an eight foot bicycle with the rider perched sixteen feet above the ground.⁴⁵ This was probably a British product, because two Coventry firms won awards for aerial velocipedes (one with a wheel seven feet in diameter), a tangent velocipede, and two spider bicycles.⁴⁶ It was not until two years after the Centennial that A. A. Pope set up the first bicycle factory in this country, and not until the eighties and nineties that cycling became the hobby of daredevil "speed burners."⁴⁷

The French entered the international transportation contest with a cynophore which substituted dog power for man power in cycling. As Ingram said at the time, "This method of riding is no doubt very pleasant to the man, but it must be rather hard on the dog."⁴⁸ American canines were evidently either less hardy or more independent than the French breed. At any rate, the dog velocipede remained a novelty of the Centennial, even though the judges saw fit to give it an award for its fitness and ingenuity.⁴⁹

³⁸ Report of the New Jersey Commissioners, p. 368.

³⁹ *Ibid.*, p. 368.

⁴⁰ "Tramway," *Encyclopedia Britannica*, eleventh edition, XXVII (New York, 1911), pp. 159-164.

⁴¹ Walker, *op. cit.*, p. 83.

⁴² Ingram, *op. cit.*, p. 354.

⁴³ Partridge, *op. cit.*, p. 153.

⁴⁴ "Cycling," *Encyclopedia Britannica*, eleventh edition, VII (New York, 1911), p. 683.

⁴⁵ Trout, *op. cit.*, p. 232.

⁴⁶ Walker, *op. cit.*, VI, p. 158.

⁴⁷ "Cycling," *Encyclopedia Britannica*, eleventh edition, VII, p. 683.

⁴⁸ Ingram, *op. cit.*, p. 464.

⁴⁹ Walker, *op. cit.*, VI, p. 152.

Considering the great strides that had been made in the building of railroads in the last two decades, it is remarkable that the Exposition had comparatively few exhibits. About fifteen heavy-duty locomotives of American manufacture were shown. The cost of transportation was too formidable to allow European countries to import their products for an exhibit. The British, however, showed some railway equipment.⁵⁰ There was an American exhibit of car wheels, but the Sharp, Pullam, and Wilmington Car Companies were the only exhibitors of steam railway cars.⁵¹ All these were noticeable for the "general regard that was paid to the comfort of the passengers," a feature that received little attention on British and Continental trains.⁵² Hotel cars, Pullam hotel cars, Pullam parlor cars, boudoir cars, and library cars won commendations.⁵³

The engineering feats required for the new growth in transportation took the form of models of major tunnels and bridges. While the Italians showed their Mt. Cenis tunnel in miniature, the American Bridge Company and the Keystone Bridge Company of the United States had models of their best known products.⁵⁴

Aside from the famous ships sent by the United States Navy for exhibition at the Centennial, there was little accent upon water transportation in the exhibits.⁵⁵ One Brooklyn firm, I. A. Chomel, showed swinging berths designed to prevent sea sickness. A second company featured a life preserving mattress. One Baltimore concern had models for submarine work.⁵⁶ Most of the ships shown were models of famous steam or sailing vessels, the model of the Hamburg Line's "Frasis" being outstanding. Two full-sized steam yachts intended for river use were set up in Machinery Hall, and a third propelled by a new type screw was located on the Delaware River.⁵⁷

Man's conquest of the air was faintly hinted at in the Centennial in the balloon exhibit. As far back as the Civil War there had been a balloon corps attached to McClellan's Army, but the dramatic use of the balloon in the siege of Paris during the recent Franco-Prussian War had given new impetus to air transportation.⁵⁸ James Hartness of Boston exhibited a balloon with a life-boat attached, a fitting safety device to be seen in Philadelphia, where the first experiment in flight had aborted because of the desperate passenger's

⁵⁰ Morison, *op. cit.*, p. 55.

⁵¹ Ingram, *op. cit.*, pp. 192-193.

⁵² *Ibid.*, p. 390.

⁵³ Walker, *op. cit.*, VI, p. 254.

⁵⁴ Ingram, *op. cit.*, pp. 339, 343.

⁵⁵ James R. Solly, *Historical Sketch Of The United States Naval Academy* (Washington, D. C., 1876), *passim*.

⁵⁶ *Official Catalogue*, II, p. 50.

⁵⁷ Walker, *op. cit.*, VI, p. 269.

⁵⁸ "Aeronautics," *Encyclopediæ Britannica*, eleventh edition, I (New York, 1911), p. 268.

fear of falling into the water.⁵⁹ The Hartness balloon had a greater capacity without loss of strength or increase in weight than other models in this line.⁶⁰

The *Official Catalogue* also listed a tantalizing model of what was called a flying machine, exhibited by John Swarzmayer of Philadelphia.⁶¹ The machine attracted so little attention that no contemporary account describes how it was powered or whether or not a full-size original was in existence.

The forerunner of the modern automobile was also present, but in such a crude form that the most discerning witness, and even its inventor, were unaware of its commercial possibilities.⁶² The idea of a self-propelled vehicle was not entirely new. As early as 1802, a Britisher had developed a steam carriage and, by 1824, a number of these vehicles were used as stage-coaches capable of attaining average speeds of ten to fourteen miles per hour. These, however, were too heavy for private use, since they weighed three or four tons unloaded.⁶³ In the Centennial catalogue the only item listed that could possibly be the steam automobile that Rabaugh remembered was advertised as "cheap, light, durable, safe and economical." Listed as portable steam engines with or without wagons, these came in various sizes from 9 to 100 horse power and had an automatically variable cut-off, giving uniform speed and economy of fuel. Three to three and one-half pounds of coal per horsepower per hour were required. The vehicles were manufactured by J. C. Hoady Company of Lawrence, Massachusetts.⁶⁴

That these steam-propelled wagons were forerunners of the famed Stanley Steamer seems very likely. Until well into the twentieth century steam was the favored motive power of American automobile manufacturers because of a mistaken idea that an internal combustion engine would never be made to run as silently as a steam car.⁶⁵ The Centennial automobile must be thought of as a collateral cousin of the Ford and Duryea's gasoline "buggy."

That some of the devices shown at the Centennial were to make the automotive age possible is obvious. The motor car would require better roads than those in existence in 1876. A number of machines useful for constructing the highways of the future included the Blake Crusher, designed to give greater uniformity and economy in the preparation of stone for macadamized roads, a steam road roller for packing road beds, and numerous pile-drivers and dredges.⁶⁶

⁵⁹ *Ibid.*, p. 263; *Official Catalogue*, II, p. 50.

⁶⁰ Ingram, *op. cit.*, p. 323.

⁶¹ *Official Catalogue*, II, p. 50.

⁶² Trout, *op. cit.*, p. 232.

⁶³ Charles S. Rolls, "Motor Vehicles," *Encyclopediæ Britannica*, eleventh edition, XVIII (New York, 1911), pp. 914-915.

⁶⁴ *Official Catalogue*, II, p. 35.

⁶⁵ "Motor Vehicles," *Encyclopediæ Britannica*, eleventh edition, XVIII, p. 920.

⁶⁶ Ingram, *op. cit.*, pp. 189, 393.

The great expansion of the industrial revolution apparent during the century would have been impossible without the phenomenal growth of the iron and steel industry. As far back as the colonial period Massachusetts and Virginia had aroused the ire of Parliament by attempting to compete with British smelters in the domestic markets. Once free from such restrictions and encouraged by new uses for iron products, American furnaces had grown rapidly, but prior to the Civil War steel was too expensive for common use. The Bessemer process and the open-hearth furnace having now made the production of the latter practicable, steel was quite prevalent at the Centennial.

Much attention was given to methods of processing iron. Sellers and Company showed one of the rotary puddling furnaces first introduced at those works.⁶⁷ Carnegie, who had opened the J. Edgar Thompson Steel Mills in 1873, exhibited a model of his "Lucy" furnace, which was able to produce 700 tons of iron a week.⁶⁸ Another company showed a blast furnace for making steel.⁶⁹ Drawings of the Bethlehem Iron Company's Plant were an important part of the Centennial to many foreign visitors.⁷⁰

Among the foreign displays, Sweden had an excellent exhibit. "Nowhere in the whole Exhibition -- not even in the United States section was there such an extensive, well arranged, and well classified show of iron and steel." Twenty-eight Swedish companies participated in this exhibit. Blue prints and drawings of the principal furnaces were shown.⁷¹

Ores and coal being necessary adjuncts to any type of smelting, great strides had been made in mining machinery. England, the "Cyclops of the Modern World," had an extensive display of mining machinery.⁷² The most fascinating of the American exhibits was a small quartz mill in actual operation. The cost of construction (\$20,000) was paid by the legislature of Nevada. Four mines of that state, the Consolidated Virginia, California, Ophir, and Belcher, supplied the ores processed at the Centennial.⁷³

The lethal potentialities of heavy industry for making war were never completely in the background at the Exposition. Almost every country showed arms or processes for making arms. The displays ranged from the old-fashioned matchlocks, chain mail, and daggers used by the natives of India to the latest monster cannon forged in Germany.⁷⁴ Brazil made a very martial display, with 506 guns and a model of a man-o-war.⁷⁵ The Russian section,

⁶⁷ Morison, *op. cit.*, p. 55.

⁶⁸ Hicks, *op. cit.*, p. 63; Ingram, *op. cit.*, p. 229.

⁶⁹ *Ibid.*, p. 347.

⁷⁰ Walker, *op. cit.*, III, p. 26.

⁷¹ Ingram, *op. cit.*, p. 530.

⁷² *Ibid.*, p. 307.

⁷³ *Ibid.*, pp. 193-194.

⁷⁴ *Ibid.*, pp. 444, 593.

⁷⁵ *Ibid.*, p. 506.

too, bristled with examples of her latest vessels.⁷⁶ British war power was represented by armor used on her battleships.⁷⁷ In fact, John Brown and Company of Sheffield won top honors in this display.⁷⁸

Never a really militaristic nation, the United States had on display a Gatling gun with five barrels, capable of firing a thousand shots a minute, and a similar Gatling gun on a tripod.⁷⁹ There were also some guns for naval use.⁸⁰ The Pratt and Whitney Machine for rifling gun barrels was "one of the most attractive objects to us" fervently declared Ingram.⁸¹ The Colt revolver, the gun that won the West, was an outstanding small-arms exhibit.⁸² It is not surprising, however, that none of the other national armaments attracted so much attention as Germany's Krupp guns, which were inappropriately flanked by Red Cross equipment and photographs of the latest in hospitals and army barracks.⁸³

The pen, that weapon that is said to be mightier than the sword, was thoroughly mechanized in the printing exhibits at the Exposition, where might be seen the latest in type casting and setting machines.⁸⁴ In 1814 a German had printed the first newspaper by steam. The *London Times* having adopted the machine, steam presses were soon no novelty in England. At Philadelphia in 1876, it was, however, an American exhibit, the Campbell Press that demonstrated the "progress and improvements" in the art of printing since Konig's development of the early steam presses.⁸⁵

Visitors could see the latest in newspaper equipment in operation on the Centennial grounds. The *New York Herald* had set up a plant at the Exhibition to show the actual processes involved in putting out its great daily.⁸⁶ Ten to fifteen thousand copies were printed there every morning on its Bullock press from plates, sent from New York.⁸⁷ Napoleon B. Kneass' monthly periodical for the blind was also printed on the grounds.⁸⁸

Communication of other types was not neglected. For letter writing there was an extensive exhibit of pens.⁸⁹ Also, a practical United States

⁷⁶ *Ibid.*, pp. 479-480.

⁷⁷ *Ibid.*, p. 223.

⁷⁸ Walker, *op. cit.*, III, p. 462.

⁷⁹ Ingram, *op. cit.*, p. 220.

⁸⁰ *Ibid.*, p. 223.

⁸¹ *Ibid.*, p. 159.

⁸² Walker, *op. cit.*, VI, p. 121.

⁸³ Ingram, *op. cit.*, p. 444.

⁸⁴ *Ibid.*

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⁸⁶ *Visitor's Guide*, p. 20.

⁸⁷ *Ibid.*, pp. 161, 206-208.

⁸⁸ *Ibid.*, p. 224.

⁸⁸ G. E. Waring, "The Awards at the Centennial," *Nation*, XXIII (November, 1876), p. 319.

⁸⁸ Trout, *op. cit.*, p. 227.

⁸⁹ Ingram, *op. cit.*, p. 229.

Post Office was set up to take care of the Centennial mail. One is struck by the number of envelope making machines at the Centennial. One of these could cut, fold, and gum 25,000 envelopes a day.⁹⁰ Hundreds "flocked" to see a machine no larger than a piano "for making postal envelopes."⁹¹

Communication between the Centennial buildings was carried on via a telegraph employing underground cables.⁹² Invented not long before the Civil War Morse's original telegraph instruments showed the effects of recent improvements in the New Giant Sounder of Patrick and Carter, in Ander's Magneto-printing Telegraph, and in Gray's Automatic Printer.⁹³ Bell, whose original telephone was one of the novelty gadgets in Judge's Hall also had a multitelegraph and printer.⁹⁴

The first telephones met with a somewhat cool reception. The two rival models invented independently -- Gray's, which could transmit music, and Bell's, which carried both musical and spoken sounds -- were destined to have a greater effect than any other single patent upon the future of the world.⁹⁵ Yet, so far as the Centennial visitors were concerned, Bell's device "attracted less notice than the parlor magic on sale in the Pavilions."⁹⁶

Fortunately for Bell, the telephone "created a sensation" among the few who could discern true magic from the parlor variety.⁹⁷ The judges at the fair were "thrilled and Bell was encouraged."⁹⁸ Dom Pedro and the Empress came at 9 a.m. one Sunday in June to give the instrument a trial. This time was chosen because the transmitted sounds were too weak for voices to be heard above the din of the crowds on weekdays, while the Centennial was closed to the public on Sunday.⁹⁹ Lord Kelvin, the British scientist, also talked over the telephone during his visit to the Centennial and "upon hearing its uncanny repetition of spoken words, pronounced it "the most wonderful thing in America."¹⁰⁰ Queen Victoria was so thoroughly impressed by such accounts that during Bell's visit to England in 1876, he was commanded to demonstrate his invention to the queen.¹⁰¹

⁹⁰ *Ibid.*, p. 155.

⁹¹ "U. S. Government Exhibit," *Nation*, XXIII (October, 1876), p. 238; Morison, *loc. cit.*, p. 55.

⁹² *Visitor's Guide*, p. 8; Trout, *op. cit.*, p. 245.

⁹³ Ingram, *op. cit.*, pp. 292, 295.

⁹⁴ Trout, *op. cit.*, p. 295; Walker, *op. cit.*, VII, p. 130.

⁹⁵ *Ibid.*, VII, pp. 131-132; *Book Of Popular Science*, II (New York, 1950), p. 804.

⁹⁶ Trout, *op. cit.*, p. 247.

⁹⁷ *Book of Popular Science*, II, p. 804.

⁹⁸ Trout, *op. cit.*, p. 247.

⁹⁹ *Ibid.*, p. 231.

¹⁰⁰ *Book of Popular Science*, II, p. 805.

¹⁰¹ Wellman, *op. cit.*, p. 78.

The Centennial telephone, although the direct parent of all present commercial telephones, differed greatly from models now in use. For one thing, it operated from a large battery furnished by the superintendent of the Centennial for Bell's exhibit.¹⁰² It was a one-way affair, because the apparatus was not designed to transmit and receive conversation at the same time.¹⁰³ It was in the fall of 1876 that this defect was mastered so that reciprocal conversation was possible. Whether or not this improvement was incorporated in the Centennial telephone is difficult to ascertain from the scant accounts of interested eye-witnesses. At any rate, W. H. Sawyer, who was present when Dom Pedro and Lord Kelvin talked over the Centennial telephone, could vividly recollect "the first telephone exhibit at the Centennial presided over by Thomas A. Watson, and also Bell's exhibit of his telephone in Judge's Hall."¹⁰⁴

One invention that was ultimately to transform American communications was the typewriter. In reality, there were two competing forms of this invention on display -- one Russian and one American. The Russian model was equipped with type suitable for writing Russian and English characters, although with slight modifications it could be used in writing any modern language. It had all kinds of punctuation marks. Operating a foot pedal, the typist turned a lever on a dial to the letter desired. The typing speed of this Russian machine was much slower than that of its American competitor. It was the opinion of the inventor, M. Alisoff of St. Petersburg, that the average man could write faster than he could think; so the greatest virtue of the machine was that its clarity prevented misreading the copy. A trained operator could move at about the speed of cursive writers.¹⁰⁵

The American typewriter put great emphasis upon speed and ease in operation. Even so, people who saw it were inclined to wonder why anybody would "want to write by machinery when it could be done so much better and faster by hand."¹⁰⁶ The first Remington justified some of the adverse criticism. The copy turned out by it was crude, because the Centennial typewriter printed only capital letters. It was not until the next Paris Exposition that the invention of the shift key allowed the use of both capital and small letters. The difficulty of the operator was greater than that encountered by the modern typist because there were four additional keys. Otherwise the arrangement of the keyboard has remained virtually unchanged in standard models. The Centennial typewriter had a right hand carriage throw, unlike models now in use. Also, a key substituted for the space bar.¹⁰⁷

¹⁰² Trout, *op. cit.*, p. 244. ¹⁰³

¹⁰⁴ *Ibid.*, p. 243. ¹⁰⁵

¹⁰⁵ Ingram, *op. cit.*, pp. 482-483.

¹⁰⁶ Partridge, *op. cit.*, p. 117.

¹⁰⁷ *Book of Popular Science*, IX, p. 3641.

If the backers of the electric motor had had the enterprise in marketing that product that the early typewriter salesmen showed in selling theirs, someone might have made the mythical million. With a spirit considered peculiarly twentieth century American, they set out to break down buyer resistance. E. Remington and Son met the objection that no one knew how to operate the Centennial Typewriter by issuing a set of directions with a full size illustration of the keyboard with these brief instructions printed below it.

Practice upon the above (illustration) by touching each letter (one at a time) in any desired word, and the "space key" after the word. One or two hours [sic.] practice daily, will soon enable you to write from 50 to 100 words per minute upon the machine. ¹⁰⁸

One wonders how many potential speed typists could operate the machine when they first viewed it in reality at Philadelphia. Certainly, there were a number of well-trained agents near at hand. If the Remington promise of from 50 to 100 words a minute was on the optimistic side, the local typewriter agent's advertisement in the *Official Catalogue* was positively glowing. According to Mr. John Bain the typewriter "supersedes the pen, faster, manifold keys like a piano, children, blind, aged print at once. C.O.D. \$125. John W. Bain, agent (to whom all orders must be sent.)" ¹⁰⁹ John Pratt of Centre, Alabama, was also listed as a seller of typewriting machines. ¹¹⁰

At the Centennial itself, advertising was combined with money-making by the typewriter agents. For fifty cents one could buy a typewritten letter, the first of its kind, to send to a friend in some distant city. ¹¹¹ The sender's friend would be aware that someone was busy seeing the latest gadgets. Incidentally, the friend would also become aware that a new machine called the typewriter was in existence. !

It is hard to ascertain whether the adoption of the typewriter should be classified as an economic or a social development. It was both. The awkward looking machine with a few minor improvements helped speed up the economy of the nation by speeding up its business correspondence. More important still, it was to provide a new field for women wage earners, thus helping to free the "Genteel Female" from some of her gentility. A flood of

¹⁰⁸ Herbert A. Tonne, Estelle Popham, and M. Herbert Freeman, *Methods of Teaching Business Subjects* (New York, 1949), p. 87.

¹⁰⁹ *Official Catalogue*, II, p. 76.

¹¹¹ Trout, *op. cit.*, p. 241.

¹¹⁰ *Ibid.*, p. 33.

shocking Miss Pilgrims were to become "typewriters" in offices that had heretofore been a strictly masculine domain, although no one at the Centennial grasped this revolutionary omen. Instead,

at least ten million jokes and puns were called forth by the new "letter writing machine" which the Genteel Female, even though she was a student at Vassar and on the ladies' cricket team would pass by with a shake of her bustled skirt as completely out of her world. It looked ugly and unpromising enough to fail to attract the attention of even the most "bloomerish" young woman.¹¹²

Of the making of gadgets, America has seen no end, and the Centennial was no exception, particularly for the souvenir hunters. Geldlende and Sons turned out on the grounds a variety of busts of noted men and paper weights of the Centennial buildings in glass.¹¹³ Another company set up jacquard looms to weave Centennial book marks.¹¹⁴ The *Visitor's Guide* itself was made and sold on the grounds to serve both as a guide and a momento of the occasion.¹¹⁵

The Centennial Photographic Company, holders of an exclusive franchise for photography on the Centennial grounds, did a land office business furnishing photographs for use on passes and taking pictures of Centennial visitors.¹¹⁶ Designed by the architect of Memorial and Horticultural Halls, it was the largest studio in America and, from Ingram's description of it, a "true Babel" -- the busiest one.¹¹⁷ These photographs were taken by means of natural light admitted through an interior court. Although Eastman did not market the Kodak until twelve years later, the dry plate process perfected by Dr. Maddox in 1871 was used here. It provided a permanent though somewhat stiff likeness.¹¹⁸

The Croton Flour Company gave away free samples of its cakes, biscuits, etc.¹¹⁹ Male visitors would have probably been happier if the Centen-

¹¹² Wellman, *op. cit.*, p. 272.

¹¹³ Ingram, *op. cit.*, pp. 283-284.

¹¹⁴ *Ibid.*, p. 366.

¹¹⁵ *Visitor's Guide*, p. 11.

¹¹⁶ Ingram, *op. cit.*, pp. 329-330.

¹¹⁷ *Ibid.*, p. 340.

¹¹⁸ *Book of Popular Science*, IX, p. 3788.

¹¹⁹ Ingram, *op. cit.*, p. 257.

nial Brewery had handed out free samples of its products. Located among the 207 American brewer's displays, the brewery in operation had a capacity of 150 gallons.¹²⁰ This, however, proved insufficient to quench the Centennial thirst. An early morning sight common at the grounds was said to be the "great vans piled high with kegs of lager, which it would seem -- out of regard to the stalwart temperance sentiment of the Commission -- have orders to slip in their cargoes before the multitude is fairly afoot."¹²¹

The pin- and needle-making machines in operation were said to be especially attractive to lady visitors. Economically these machines were of especial importance, because heretofore England had been our main source for these products.¹²² At the Centennial American machines mass-produced 4,000 needles a day, and a parent factory in Massachusetts was said to turn out 25,000 units each day.¹²³

America's growing independence in manufacturing was notable in the demonstration of the Waltham Watch makers, busy with their fine machinery.¹²⁴ Visitors, we are told, flocked to watch this operation although most of the work was so minute that little could be seen.¹²⁵ This demonstration together with Elgin's display of fine watches -- one of them had passed through the Chicago fire in a safe and was still running -- proved that this country was no longer dependent upon Swiss manufacturers for its time pieces.¹²⁶

One's curiosity is piqued by the ultimate fate of the Century Clock. Considered at the time as the nearest thing to perpetual motion, the clock was supposed to run a hundred years without rewinding.¹²⁷ The Judges, however, reported that the clock was already losing time at that date.¹²⁸ Is it still running after nearly eighty years or did it "give up the ghost" after a decade or so? No available sources answer this puzzling question.

The ultimate destiny of the Nonatuck Silk Mills is less wrapped in obscurity. In their exhibit the whole process of silk manufacture from cocoon to fabric was shown.¹²⁹ The thriving silk industry of New Jersey in the twentieth century was shown here in its infancy. Already the industry had reached the point where five Jersey firms could win medals for their silk textiles. The award committee would cite one of them, Weidman and Gupps, for

¹²⁰ *Official Catalogue*, II, p. 44; Ingram, *op. cit.*, p. 154.

¹²¹ "In and About the Fair," *loc. cit.*, p. 889.

¹²² Ingram, *op. cit.*, p. 183; *Ibid.*, p. 243.

¹²³ *Ibid.*, p. 244. ¹²⁴ Bowers, *op. cit.*, p. 309.

¹²⁵ "U. S. Government Exhibit," *loc. cit.*, p. 238.

¹²⁶ Ingram, *op. cit.*, p. 315. ¹²⁷ *Ibid.*, p. 303.

¹²⁸ Walker, *op. cit.*, VII, p. 388.

¹²⁹ G. E. Waring, "Agricultural Hall," *Nation*, XXIII (August, 1876), p. 88.

"excellent production of colored dyed silk, comparing with the best European manufactures."¹³⁰

The growing cotton goods manufacturing in the United States was not so notable in the machinery shown as in the products on display. The growing weaving industry in the South was recognized in an award to the Mississippi Mills at Wesson, Mississippi.¹³¹ It was, however, the enormous power looms of Britain, with such recent inventions in processing as a self-reader for Jacquard looms, that attracted more attention than American machinery.¹³²

Early American settlers had colored their hand spun and woven fabrics with dyes obtained from the roots and leaves of plants native to the North American Continent. Nor for nothing was a Yankee countryman's clothing called "butternut." No longer content with such homemade makeshifts the Centennial exhibits showed that most of our dyes were still to be imported for some years. Germany, as her exhibit proved, had an almost undisputed monopoly in this branch of chemical manufacturing.¹³³

The young American chemical industry did, however, show "encouraging signs," according to observers.¹³⁴ Over two hundred American companies, as compared with only 113 German companies, exhibited their wares.¹³⁵ The American firms were chiefly engaged in the production of soap of all types, from heavy duty laundry soaps to highly perfumed and colored soaps for toilet use.¹³⁶ Potash and other more intricate chemicals and pharmaceutical combinations were still regarded as a "specifically German branch of industry."¹³⁷

While dyes and fertilizers were a peculiarly European industry, agricultural machinery was a peculiarly American one. The opening of the Western plains had in the decade between 1870 and 1880 caused American farms to increase by an area as large as the British Isles and Sweden combined.¹³⁸ Eastern farmers might plod in the ways of their ancestors, but the western farmer with a large acreage and a dearth of available hired labor was forced to find some mechanical means of supplementing his manual toil. In the decade

¹³⁰ *Report of the New Jersey Commissioners*, p. 569.

¹³¹ *House Journal of the House of Representatives of the State of Mississippi for the Regular Session, January 2, 1877* (Jackson, 1878), p. 105.

¹³² Ingram, *op. cit.*, pp. 294, 387. ¹³³ *Ibid.*, p. 446. ¹³⁴ *Ibid.*, p. 239.

¹³⁵ *Idem.* ¹³⁶ *Ibid.*, p. 241. ¹³⁷ *Ibid.*, p. 436.

¹³⁸

Arthur Meir Schlesinger, *Political and Social Growth of the United States, 1852-1933*, revised edition (New York, 1935), p. 141.

preceding the Centennial the American foundries turned out a great number and variety of farm machinery. Near at hand, and protected by a high tariff wall, they had an ample market for their machines. In 1860, American farm implements had been valued at \$246, 118, 141 and by 1880 these values were almost doubled.¹³⁹

The old agriculture and the new agriculture stood side by side in Agriculture Hall. The ox-plow used by Daniel Webster in 1837 with its ponderous nine foot beam stood side by side with the "Eclipse," a lighter, stronger, and more efficient tool for use on plantations and heavy prairie sods.¹⁴⁰ From the sickle, the cradle, and the hand rake to the new mowers and reapers shown by the American agricultural exhibit was a long step in the process of supplementing or substituting machine labor for human labor.¹⁴¹

While gazing at these truly marvelous changes, one observer of the "superior" United States exhibits at the Exposition felt that these new contraptions could make "harvesting time little more than a holiday." The only important harvesting machine still needed was the automatic binder, only partially perfected by the time of the Centennial; for the model at Philadelphia could bind grain into sheaves, but the wire employed in the process often cut the grain stalks.¹⁴² In spite of this defect, the Centennial binder was hailed as the "crowning success of the Agricultural branch."¹⁴³ The fault of this first binder was remedied by the twine binder patented by Appleby of Wisconsin in 1878. For use in sowing by horsepower Goodall of New Hampshire exhibited a patented seed sower.¹⁴⁴

A number of the new machines were regarded as extremely radical in that their inventors proposed to substitute steam power for horse power. Thus we find a straw burning steam engine designed to use chaff as its fuel, a perpetual hay press run by a portable steam engine, a wagon with steam for its motive power, steam plows, and an agricultural locomotive -- this last machine being a product of a British firm, Aveling and Porter.¹⁴⁵

It must not be considered that any of these inventions were merely theoretical toys. The agricultural machines stood a "severe field test" before the board of judges.¹⁴⁶ During June and July came the trials of harvesting machinery, while in September trials for steam plows and tillage instruments took place.¹⁴⁷

¹³⁹ *Ibid.*, p. 132.

¹⁴⁰ Ingram, *op. cit.*, p. 255.

¹⁴¹ Waring, "Agriculture Hall," *loc. cit.*, p. 88. ¹⁴² Ingram, *op. cit.*, p. 244.

¹⁴³ Waring, *loc. cit.*, p. 88.

¹⁴⁴ Ingram, *op. cit.*, p. 248.

¹⁴⁵ *Ibid.*, pp. 248, 252, 390; *Official Catalogue*, II, p. 35; *Visitor's Guide*, p. 7.

¹⁴⁶

Report of the New Jersey Commissioners, p. 375.

¹⁴⁷ *Visitor's Guide*, p. 7.

The agricultural exhibits were extremely valuable in that they "opened the eyes of the farmer visitors to the possibilities of scientific agriculture."¹⁴⁸ Here farming was seen as no longer a test of brawn but as a field for ingenuity. As improvement followed improvement, many a homestead was mortgaged to secure the new labor-saving tools.¹⁴⁹ The direct result of this mechanized farming was an immense increase in production. Wheat more than any other farm crop profited from these new sowers, harvesters, rakes, and threshers. In 1860 at the beginning of this agricultural revolution the United States harvested only 173,104,924 bushels of wheat; by 1880 this had jumped to an amazing 498,549,868 bushels.¹⁵⁰ The Centennial did its share toward making late nineteenth century America the "bread basket of the world."

The Centennial industrial and agricultural exhibits proved to even the most skeptical that the United States was well on its way toward becoming the greatest agricultural and industrial nation in the world. The British might still excel in textile weaving processes, the French in the luxury trade, the Germans in engineering and chemical manufacturing, and the Swiss in watch making, but the Centennial showed that in inventiveness and in willingness to use the latest techniques for mass production the United States had no peer. The heavy industries and farming were seen as already well developed in 1876. The skilled trades at the Centennial were yet in their infancy on the hundredth anniversary of the Declaration of Independence, but it was a lusty infancy.

V. THE PURSUIT OF CONVENIENCE

American everyday living had undergone many changes in the hundred years of the nation's existence. Convenience and comfort had come to be the goals of the average American even before the frontier was conquered. It was the American fair that could best chronicle both the achievements and the aspirations of this urge for a better way of living, and the Centennial of 1876 did this very thing quite well.

The problem of supplying adequate amounts of running water for the American home was technically solved by 1876 is shown in the exhibits listed in the official catalogue of the fair. Three companies displayed boring machinery for artesian wells, while one of them boasted that one man and one horse could bore 20 feet an hour with his device and served notice that "agents

¹⁴⁸ Hicks, *op. cit.*, p. 114.

¹⁴⁹ Schlesinger, *op. cit.*, p. 142.

¹⁵⁰ *Ibid.*, p. 132.

[were] wanted in every county, also in foreign countries."¹ In the Pump Annex side by side with hand pumps for deep wells and cisterns were giant steam and hydraulic pumps.²

Whether because to Victorian reticence or to an actual lack of interest house plumbing devices were strangely neglected in the fair exhibits. Jennings Brothers of New York did exhibit Japanese Paper ware consisting of "pails, basins, bowls, spittoons, cuspidors, fruit dishes, foot-baths, slop jars, etc." for the benefit of the underprivileged or of the conservative.³ Being either more advanced, or less modest, one London firm, by coincidence also named Jennings, exhibited lavatories, tubs, water closets, and latrines.⁴

Sewage disposal was one department of sanitation that received some attention in the terra-cotta displays. Amid art objects for the house and garden the Trenton Fire-Brick and Terra-Cotta works exhibited terra-cotta sewer and drain pipes of all sizes.⁵

In the field of lighting it was the heyday of gaslight. Since the Centennial was closed at night, its lighting provided few problems. Many of the public buildings, however, boasted elaborate gas chandeliers. Commenting upon the exhibits themselves one contemporary boasts that "this branch of household decorative art has advanced and become a very important branch of American industry."⁶

In most of these "beauty and utility were wedded" and the results were most ingenious. The more ornate the product the more beautiful it was considered. In their pavilion erected for the purpose Messrs. Baker, Arnold, & Co. had "some of the prettiest and most elaborate chandeliers we ever saw," declares the ubiquitous Ingram. Gilt was mingled in these products with "gay and lively colors."⁷

As for electricity, the incandescent bulb was not to be perfected at Menlo Park until 1879.⁸ The electricity at the fair was almost entirely used in chemical manufacturing, as a cure for family ills, and in burglar alarms and numerous telegraph devices.⁹ Fifty years later W. H. Sawyer thought he remembered having seen an electric light at Philadelphia. The lamp he saw, however, was a farmer's arc lamp, which was poorly adapted to home lighting.¹⁰

¹ *Official Catalogue*, II, p. 17.

² *Ibid.*, II, p. 40. ³ *Ibid.*, I, p. 146.

⁴ *Ibid.*, I, p. 40.

⁵ Ingram, *op. cit.*, p. 278.

⁶ *Ibid.*, p. 179.

⁷ *Ibid.*, p. 379.

⁸ Hicks, *op. cit.*, p. 173.

⁹ Ingram, *op. cit.*, pp. 294, 294, 297.

¹⁰ Trout, *op. cit.*, p. 244.

Meanwhile, the kerosene lamp held its popularity with the general public, who were still delighted with it as an improvement over the oil wick and candle of an earlier era. Nevertheless, the old type oil lamp exhibited a refinement in the form of a new improved lamp burning animal oil.¹¹ Kerosene lamps were everywhere at the fair. One Cleveland company advertised its kerosene and coal oil lamps as efficient, non-breakable, odorless, and non-explosive.¹² Ripley and Company of Philadelphia had "blown and cut" kerosene lamps for those persons desiring to rise above mere utility.¹³

The American penchant for central heating was evident at the fair. In contrast with the heating of the average home, one of the wonders of Horticultural Hall was the steam heat installed there to insure the safety of its tropical flora.¹⁴

It is doubtful whether much steam was required to protect the exotics during a summer so sizzling that the very pavements of the ground seemed to melt. With typical Yankee ingenuity the Fair Commission set out to conquer the problems afforded by the soaring mercury. Having as yet no mechanical means of refrigeration, the answer lay in the use of blowers. The all-too-vigorous air currents that resulted "often created too much a blow for the unwary visitors." Gentlemen were forever chasing their hats and ladies sometimes disgracefully exposed their ankles in the miniature hurricane.¹⁵

The desire to alleviate the effects of climate shows at work what the world has come to consider a typically American trait. The Centennial exhibits pioneered in the field of comfort. Water coolers and ice refrigerators were present.¹⁶ One oriental bed was so constructed that in the opinion of an observer the sleeper could be comfortable in a temperature just short of the boiling point.¹⁷

In the field of heating and cooking a big step forward was foreshadowed. The open fireplace or coal grate, the iron range in the kitchen, and the airtight heater in the parlor were still in common use. Steam radiators were already hissing in a few homes and one bold American manufacturer advertised "novelty" gas ranges and heaters said to be smokeless and odorless.¹⁸ He made no claims, as did the patent lamp manufacturers, as to the non-explosive qualities of his products and he mentioned no safety devices. At least two British firms, Heaps & Wheatley and Clay & Randolph, advertised their gas cooking stoves, the former producing oil stoves also. The latter could also supply his customers with stoves using "solid fuel." Canadian ex-

¹¹ *Official Catalogue*, I, p. 114.

¹² *Ibid.*, I, p. 115.

¹³ *Ibid.*, I, p. 108.

¹⁴ Mitchell, "First Look," loc. cit., p. 745.

¹⁵ Partridge, *op. cit.*, p. 116.

¹⁶ *Official Catalogue*, I, p. 146.

¹⁷ Ingram, *op. cit.*, p. 577.

¹⁸ *Official Catalogue*, I, p. 114.

hibitors seem content with stoves, a stovepipe damper, and sad irons.¹⁹ One could also purchase heater apparatus (unspecified types) from M. Neuville of Paris, although most of his fellow countrymen were exhibiting Faience stoves and bronze fireguards.²⁰

It must be remembered, however, that most of these devices -- heat, light, and plumbing -- were novelties in homes that had not advanced far in comfort or convenience beyond their counterparts of a century earlier.

Tub inventions that were profoundly to affect the American home were coming into their own by 1876. The tin can and the sewing machine are two admirable examples of products whose true significance was first overlooked by the public. Neither product was entirely novel; to a certain extent the commercial possibilities of both had been proved but nowhere do we find predictions of the great changes that either was to make in the daily lives of millions of Americans.

As a result of the invention of the sewing machine by an American, Howe, the United States had the finest collection of sewing machines at the Centennial.²¹ The British might show their "Queen Mab," their "Queen of Scots," their "Queen of Hearts," their "England's Queen," and their "Cleopatra."²² Despite these royal names, John Bull's machines nowhere approached the ingenuity of the Yankee models. American sewing machines displayed at Philadelphia could make chain and lock stitches; they could work buttonholes; and they could stitch carpets, heavy leather for shoes, and light leather for gloves.²³ Curiously enough, the only foreign company to win an award for an ingenious variation of the original sewing machine was a Hamburg concern, which manufactured one of the several medal-winning button-hole stitchers.²⁴ One American machine, the "Little Wonder," could do intricate embroidery, although a power-driven Belgian machine doing the same type of work might be said to be more advanced.²⁵ All of these developments were following obvious trends.

The ultimate development that might be overlooked was the fact that the demonstration machines were operated by women.²⁶ The employment of female labor for industry was not in itself startling. For a decade or so in the thirties and forties the Lowell Cotton Mills had lured New England girls into what really amounted to a sweatshop operated under the strict rules of a

¹⁹ *Ibid.*, I, p. 148.

²⁰ *Ibid.*, p. 194.

²¹ Ingram, *op. cit.*, p. 157.

²² *Ibid.*, p. 395.

²³ Walker, *op. cit.*, VII, pp. 107-110.

²⁴ *Ibid.*, VII, pp. 107-110.

²⁵ Ingram, *op. cit.*, pp. 157, 514.

²⁶ *Ibid.*, p. 157.

boarding school, until successive westward migration and appalling living conditions had at length caused the replacement of native labor with recently arrived Irish immigrants.²⁷ What was really startling was that here was the basis for the great fashion industry of the future, in which American women would be the principal consumers and would not only supply skilled operators for machines but also creative designers like Hattie Carnegie or Claire McCardell. Who could dream that the American woman of the future would buy most of her garments ready-to-wear or that Paris as a style center would feel the jolt of competition from such unlikely places as New York, St. Louis, Dallas, and California?

If the sewing machine was to lure the American woman from home to the factory, the infant canning industry was to free her from the slavery of the kitchen. Aborigines preserved food for times of scarcity by drying, smoking, burying, and salting. Until the latter part of the nineteenth century civilized man had but varied these methods. One might look at Borden's condensed milk at the Centennial and dream of more palatable winter meals.²⁸ No one seems to have prophesied an era when the can opener would be the most valuable single tool in the average American kitchen. Or for that matter, who looking at the new self-rising flour would have dreamed that with a few more intricate combinations of ingredients the twentieth century housewife would need add only liquids to turn out anything from cornmeal muffins to angel food cake.

Without benefit of our hindsight, the *Nation* reporter was frankly bored by the sight of so many cans and bottles at the Centennial.²⁹ His colleague from the *Atlantic* was utterly weary of the "acres of sewing machines."³⁰ Little did they realize that wearisome sights were landmarks in the American's perennial pursuit of convenience.

²⁷ Louis T. Merrill, "Mill Town on the Merrimack," *Readings for College English*, ed. John C. Bushman and Ernst G. Mathews (New York, 1951), pp. 299-307, 310.

²⁸ Walker, *op. cit.*, IV, p. 370.

²⁹ Maring, "Agriculture Hall," *loc. cit.*, p. 88.

³⁰ Howells, *op. cit.*, p. 93.

New Reviews of Old Books

Freud's Dream Theory

AN ANALYSIS OF "THE INTERPRETATION OF DREAMS"

by

A. Alexander Fanelli

Fifty-four years ago on the second day of the twentieth century Sigmund Freud published a book called *The Interpretation of Dreams*. The thesis of this work is set out quite simply in the opening sentence:

In the following pages, I shall demonstrate that there is a psychological technique which makes it possible to interpret dreams, and that on the application of this technique, every dream will reveal itself as a psychological structure, full of significance and one which may be assigned to a specific place in the psychic activities of the waking state.

Freud had worked for five years on this book. In it he had painstakingly analyzed one thousand dreams collected from his patients, and with scientific objectivity and candor he had analyzed many of his own dreams. He felt certain that in demonstrating the significance of dreams, in showing how dreams could reveal hidden sources of illness, he had made an important contribution to man's understanding of himself.

Freud sent review copies of his book to all the leading medical journals and during the winter of 1900 he awaited the recognition of his discoveries. But he waited in vain. The book was almost completely ignored, and the few who commented on it "said scornfully that this was evidently the work of a man once properly trained but now demented."

Even thirteen years later when *The Interpretation of Dreams* was first published in America, and after some interest in psychoanalysis had been generated here by Freud's Clark University lectures in 1909, there was little

Mr. Fanelli, who is assistant professor in the division of sociology and rural life and a member of the research staff of the Social Science Research Center at Mississippi State College, read this paper before the campus "Mezzanine Club," a group concerning itself with the rereading of the world's most influential books.

acclaim for the work. One reviewer writing in the *Athanaeum* said:

Professor Freud writes with a degree of introspection which betrays his Oriental heredity and often leads him into pure mysticism. His conclusions are sometimes far-fetched, and fit the premises incompletely, whilst an atmosphere of sex pervades many parts of the book and renders it very unpleasant reading. The results he reaches are hardly commensurate with the labour expended, and reveal a seamy side of life in Vienna which might well have been left alone.

It is difficult to see how much could come from such inauspicious beginnings. But let us shift our focus for a moment to the present year. A few weeks ago a motion picture called "Lilli" was shown at a local theater. It is a very charming and sensitive story of an orphaned French girl who is befriended by puppeteers and joins a carnival troupe to work with them. The central theme of the story is the development of the girl's realization of what motivates the behavior of the chief puppeteer, a crippled and embittered artist who loves her but is unable to express his real feelings except through the mouths of the puppets. There are two extended dream-sequences which express clearly sexual themes. In the final dream the girl realizes that the widely different characters of the puppets are really all contained in the personality of the puppeteer. Or, as Whitman said in one of his poems, "I am large, I contain Multitudes."

It does not seem at all remarkable to us in the middle of the twentieth century that such a movie, with its clear relationship to (if not outright dependence on) Freud's work, is not only extremely popular but warmly reviewed by parents and children's magazines. But the fact that this is so would appear to be some measure of the influence of Freud's ideas in the relatively short span of fifty years. It is undoubtedly true that the great majority of people in this country have never read any of Freud's writings. But the impact of his ideas in a variety of cultural areas, particularly in literary and art forms popularized through mass distribution, makes it probable that most people have been exposed to Freudian ideas in one form or another. It is for this reason that in a recent appraisal Dr. Abram Kardiner states: "Whatever opinion one may hold about the various aspects of Freud's work...there can be no doubt that it has profoundly changed our conception of human nature." And it is for this reason that almost twenty years ago a writer for the *Nation* could say without undue extravagance (even allowing for the fact that it was Freud's eightieth birthday) "Sigmund Freud is, of all living men, the one who has most profoundly influenced the thinking of his contemporaries... The real significance of what Einstein has had to say is not accessible to any except highly trained mathematicians, while Freudianism, in however simplified or debased a form, has touched the imagination and to some extent influenced the thought of everyone in the Western World whose illiteracy is not absolute."

Without attempting a review of psychoanalysis we may limit ourselves to three questions: (1) how did Freud come to write a book on the interpretation of dreams, (2) what are the main aspects of his theory of dreams, and (3) what were some of the effects of this book on literary form and content? It may seem to the listener that in tackling these questions our position is similar to that of the graduate student who indicated to his adviser that he was planning to write a dissertation entitled "The Influence of the Eighteenth Century on the Nineteenth." And this is very likely true -- but it shall not dissuade us.

In 1866, armed with a medical degree and several years of experience in the Vienna General Hospital, Freud hung a sign on his door announcing that he was ready to undertake the treatment of patients with nervous disorders. His was a rather unenviable position, however, since, in common with all the other doctors in Vienna at that time he had very little idea of what this treatment should be. How do you treat a patient with hysteria who has the symptoms of a disease -- blindness, paralysis, deafness, etc. -- but who lacks the one thing that would make the symptoms understandable, an organic cause? Or a patient with a neurosis who fears open places, or closed places, or animals, or crowds without any apparent cause? The doctors at the hospital used to laugh at these patients and tell them their troubles were imaginary, and sometimes they would give them a laxative and tell them to go home and stop malingering. But for some reason this treatment neither cheered nor cured the patients.

Since he had nothing to lose, Freud at first tried all the current cures: he tried the rest cure in which the patient would lie in a darkened room sipping milk and bland custards to calm his nerves; and he tried the energy cure in which the patient was urged to fight his troubles by violent exercise. He also tried the hot-bath cure, the cold-water cure, the pounding massage cure. It should be remembered that at a time when one authority could write: "To prevent attacks of hysteria the wearing of colored glasses may be beneficial," none of these methods seemed very fantastic. Freud even tried treating his patients with electricity and bought some batteries with which he drew sparks from their affected limbs. Divergent as they were, all of these methods had one thing in common -- they didn't work.

Finally, one day Freud came across a book written by Dr. Hippolyte Bernheim which described the work of a French country physician Dr. A. A. Liebault who was successfully treating his patients by hypnotizing them. Freud became excited about this because he recalled that while studying in Paris he had observed Charcot induce hysteria in some patients by hypnosis. Freud tried out the method, found that it worked, and happily began using it.

One day a Dr. Joseph Breuer whom Freud had met in his student days came to ask him to hypnotize one of his patients, a nursing mother who became nauseated at the sight of food. Freud successfully hypnotized the patient and relieved her of her symptom. Later Breuer told him that he himself had once cured a patient several years earlier by hypnotizing her, but he

said that the patient had really cured herself by talking. Freud was astonished. "By talking?" he said. "Yes," said Breuer, "by talking out her troubles while she lay sleeping in a hypnotic spell," and then he hurried away, late for an appointment.

Freud kept thinking about the case his friend had described and finally he persuaded Breuer to dig out his notes and describe the case to him in detail. The doctor told the story of a young girl who had become ill while nursing her dying father. She had paralysis of the neck muscles but this was an hysterical paralysis since there was no organic cause. Soon she developed new symptoms: A contraction and paralysis of her right arm and both legs, a continuous coughing and choking, food disgusted her, she developed double vision, and finally one day she lost the ability to speak German. From then on she could speak and understand only English which she had learned as a child from her governess. Every afternoon at about the same time she would pass into a semi-conscious hypnoidal state, toss and turn, and cry out, "I am being tormented!" One afternoon while she was in this state Breuer asked her what was tormenting her. Much to his surprise she answered him by describing a scene she was apparently seeing at the time -- in the scene a dying man asks his daughter what time it is, but the girl with tears in her eyes cannot see the face of the watch which appears double to her. A few moments later she awoke from her trance, sighed with relief and said, "Now I feel comfy." And within a few days her normal vision had returned. Breuer went on to describe how he had regularly hypnotized the girl and asked her to recall and relate a series of painful memories. As the girl related each incident one by one her symptoms disappeared. Freud was amazed that Breuer had kept this case unpublished for six years. He told the doctor that he had made a great discovery -- that he had found the cause of hysteria. But Breuer was inclined to be skeptical.

Freud now began using Breuer's method of getting his patients to recall their painful memories and feelings. He noted in a series of cases that it was not so much the mere catharsis of talking that relieved the symptoms as it was the bringing into conscious awareness feelings and ideas which the patient had kept hidden from himself. When these feelings could finally be faced and accepted openly, the patient's symptoms usually disappeared. Freud also noted that it was particular kinds of feelings that frightened people most, those having to do with love and mating. He went to Breuer and discussed his ideas with him, particularly the idea that our feelings of love and sex might have something to do with nervous illness. Breuer was horrified, but finally in 1893 Freud persuaded him to join him in publishing *Studies in Hysteria* in which Breuer's case of Anna O. and four of Freud's cases were analyzed. Breuer never did agree with Freud about the interpretation of these cases and in fact each wrote his own theoretical section in the book. While Breuer theorized about the hypnoidal state Freud went ahead and wrote that hysteria comes from repressed memories, and that the repressed material most often has to do with feelings of sex, which the sick person has not dared to acknowledge or to face, because these feelings are most likely to hurt his pride or

his sense of morality. And he pointed out that hidden feelings, when faced, could be overcome, and that thus getting well was very much like an act of courage.

One of the things that disturbed Freud most about hypnotic therapy was the fact that quite often when he would say to his patient: "Close your eyes. Now you feel drowsy. Now you are falling asleep." the patient would open his eyes and reply, "No, doctor, I am not asleep. I can't possibly fall asleep." Finally, one day, he tried asking the patient merely to relax completely and to tell him any thoughts that happened to come into his mind. He found that one thought led to another in a whole chain of associations and eventually the thoughts led to the painful memories. This took a lot more time than hypnosis but it had the advantage that the patient did the work for himself and when he finally unearthed the hidden causes of his illness and learned to face them, the recovery was far more likely to be permanent than under hypnotic suggestion. Freud called this method *free association* and he gave up hypnotism entirely.

In free association many of Freud's patients related the dreams they had had the night before. As he listened to these dreams Freud began to notice that certain situations kept recurring -- over and over his patients told him about dreams of flying, dreams of falling, dreams of fire, dreams of loved ones dying and about the embarrassing dreams of being in some public place without clothes. Freud became very interested in these dreams as possible clues to the patient's unconscious life. He began collecting and recording them and gradually he developed a method of dream-interpretation and a theory of dreams. But the importance of this work was much greater than its original subject matter since it forced Freud to work out the beginnings of a theory of the psychology of the unconscious -- a theory which went far beyond the realm of the neuroses. In the book which came out of his study of dreams Freud laid down the first ideas of the Oedipus theory, a tentative formulation of his ideas of psycho-sexual development, and the beginnings of his personality theory. Most of these ideas, of course, underwent extensive revision and elaboration in the subsequent forty years of Freud's life, but this might better be taken as a testimony to their fruitfulness rather than as a criticism of the original work. It was for this reason that Freud, thirty years after the publication of the *Interpretation of Dreams* could write: "It contains, even according to my present-day judgment, the most valuable of all the discoveries it has been my good fortune to make. Insight such as this falls to one's lot but once in a lifetime."

It is impossible, of course, to summarize in any adequate way what this book relates in 360 pages of eye-straining type in the Modern Library edition. But we may attempt to give some notion of its main ideas. The book divides itself roughly into three parts. In the first part Freud reviews the scientific literature on dream problems. He then reviews some previous methods of dream-interpretation and presents his own method. In subsequent

chapters he covers what the dream is (a wish-fulfillment), distortion in dreams, and finally, the material and sources of dreams. In the second part, in one long chapter entitled "The Dream-Work" (it comprises almost half the book) Freud examines in great detail the whole process of the dream, illustrating his theories with many examples from his own dreams and those of his patients. The final part of the book is entitled "The Psychology of the dream-processes" and it is here that Freud strikes out into new territory and attempts to sketch a "topography of the mind."

In his review of the literature Freud states quite flatly that "in spite of thousands of years of endeavor, little progress has been made in the scientific understanding of dreams." But he does point out that Aristotle, in contrast to many later writers, at least had the correct approach to the problem. Freud says:

"In the two works of Aristotle in which there is mention of dreams, they are already regarded as constituting a problem of psychology. We are told that the dream is not god-sent, that it is not of divine but of daimonic origin. For nature is really daimonic not divine; that is to say, the dream is not a supernatural revelation, but is subject to the laws of the human spirit, which has, of course, a kinship with the divine. The dream is defined as the psychic activity of the sleeper... Aristotle was acquainted with some of the characteristics of the dream-life; for example, he knew that a dream converts the slight sensations perceived in sleep into intense sensations, which led him to conclude that dreams might easily betray to the physician the first indications of an incipient physical change which escaped observation during the day."

Freud's objection to almost all the then-current theories of dreams is that, unlike Aristotle, they deny that the dream is a psychic activity but claim, rather, that it is merely a somatic process, i.e., an activity of the body rather than of the mind. Since the dream, for these writers, has no place in psychic activity, it cannot have any "meaning" and thus there is no problem of dream-interpretation. But Freud points out that unscientific opinion has always opposed this idea and has always endeavored to "interpret" dreams by applying one or the other of two essentially different methods. The first method sees the dream as a whole and tries to replace its content by another which is intelligible. This is *symbolic dream interpretation* and it is best illustrated by Joseph's symbolic interpretation of the Pharaoh's dream. There are two troubles with this method: it is completely intuitive -- the interpreter cannot explain the technique by which he arrives at a particular interpretation -- and it tends to be useless when it confronts a dream that is

unintelligible and confused. The second method, which we may call the "cipher" method, sees the dream "as a kind of secret code in which every sign is translated into another sign of known meaning according to an established key." Here again there is no evidence that any one of the great variety of ciphers or codes is reliable.

Though Freud rejects both of these methods as unworthy of further discussion, he maintains that the ancient and popular idea that dreams do have a meaning is much closer to the truth than the then-current scientific opinion. And, as will be seen, Freud's method of dream-interpretation retains elements of both of the above methods though it places them in a much different and more systematic framework.

The first hypothesis Freud makes, then, is that the dream has meaning, since the alternative hypothesis would preclude any study of dreams at all. The second hypothesis is that the best person to tell us the meaning of the dream is the dreamer himself. Not in the sense that he consciously knows the meaning -- it is obvious that he does not -- but if we let him tell us about his thoughts associated with various elements of the dream, he will, so to speak, give the dream away. A prerequisite condition for his telling us about his associations with elements of the dream is a certain state of mind developed in psychoanalytic procedure in which the patient (i. e., the dreamer) suspends the critical judgment of normal waking mental activity and permits any and all thoughts to enter his mind freely. As Freud puts it: "...the point is to induce a psychic state which is in some degree analogous to the state of the mind before falling asleep -- and also, of course, to the hypnotic state." In connection with this statement Freud quotes a passage from the poet-philosopher Friedrich Schiller: (Schiller was writing a letter to a friend who complained of his -- the friend's -- lack of creative power):

"The reason for your complaint lies, it seems to me, in the constraint which your intellect imposes upon your imagination... Apparently it is not good -- and indeed it hinders the creative work of the mind -- if the intellect examines too closely the ideas already pouring in, as it were, at the gates. Regarded in isolation, an idea may be quite insignificant and venturesome in the extreme, but it may acquire importance from an idea which follows it; perhaps in a certain collocation with other ideas, which may seem equally absurd, it may be capable of furnishing a very serviceable link. The intellect cannot judge all these ideas unless it can retain them until it has considered them in connection with these other ideas. In the case of a creative mind, it seems to me, the intellect has withdrawn its watchers from the gates, and the ideas rush in pell-mell, and only then does it review and inspect the multitude. You worthy critics,

or whatever you may call yourselves, are ashamed or afraid of the momentary and passing madness which is found in all real creators, the longer or shorter duration of which distinguishes the thinking artist from the dreamer. Hence your complaints of unfruitfulness, for you reject too soon and discriminate too severely."

This passage, incidentally, was written in 1788. Its use by Freud illustrates not only the point he is making, but also the deep respect he had for creative artists whose insights into the workings of the human mind he felt were sometimes far more revealing than those of scientific technicians.

Freud found that it was difficult for most patients to respond (that is, to give associations) to the dream as a whole and that he first had to break up the dream into fragments. He says: "I must first dissect the dream for him; then, in connection with each fragment, he gives me a number of ideas which may be described as the 'thoughts behind' this part of the dream." In this respect his method is similar to the "cipher-method" we mentioned earlier. But there is an important distinction: whereas the cipher-method translates the dream-content by reference to an established key, Freud's method holds that the same dream-content may conceal a different meaning in the case of different persons, or in the same person in different connections.

The implications of this position are that it is not the *manifest content* of the dream that is important, that we shall never be able to understand the dream from the manifest content alone. The dream can only be understood when we have penetrated beyond the manifest content to what Freud calls the "latent dream-thoughts" which lie behind each fragment of the dream. Strictly speaking, these are not "thoughts" at all since they are unconscious processes; they are, rather, visual images and traces of past experience which have become loaded with affect or psychic value. It is these latent dream-thoughts which furnish the basic materials for dream-construction, and it is these latent dream-thoughts that Freud attempts to reach through the process of free association in the analytic procedures with his patients.

Early in this section Freud sets forth the hypothesis that every dream represents a wish-fulfillment. He anticipates the opposition this statement will receive -- how can all dreams be wish-fulfillments when we know that many dreams (e.g., anxiety-dreams) are quite painful? Prefacing his answer to this question Freud says:

"In scientific research it is often advantageous, if the solution of one problem presents difficulties, to add to it a second problem; just as it is easier to crack two nuts together instead of separately. Thus, we are confronted not only with the problem: how

can painful and terrifying dreams be the fulfillments of wishes? but we may add to this a second problem: Why do not the dreams that show an indifferent content, and yet turn out (upon analysis) to be wish-fulfillments, reveal their meaning without disguise?... If we call this peculiarity of dreams -- namely, that they need elucidation -- the phenomenon of distortion in dreams, a second question then arises: what is the origin of this distortion in dreams?"

In answering this rather basic question Freud analyzes a number of his own dreams. The analyses are both ingenious and fascinating but since they are quite long it is impossible to go into them at this time. Through these examples, however, he demonstrates that the distortion is a result of the activity of a psychic process which he calls *the censorship*. Unfortunately, this expression of Freud's is usually translated as "the censor" and it has itself given rise to many fantastic distortions of Freud's theory particularly in articles intended for popular consumption. The censorship, as Freud sees it, is an activity of what we would ordinarily call our waking consciousness. The function of this censorship process is to prevent disturbing material in the unconscious activity of our mind from entering into consciousness. In sleep (as in day-dreaming) the censorship is not completely suspended but is relaxed enough to allow some of the latent dream thoughts to "come through", so to speak, but only in disguised form. Hence the distortion apparent in manifest dream content and the often disconnected, unintelligible, or absurd nature of the dream itself. This resolves both problems: "The question arose, how dreams with a disagreeable content can be analysed as wish-fulfillments. We see now that this is possible where a dream-distortion has occurred when the disagreeable content serves only to disguise the thing wished for. With regard to our assumptions respecting the two psychic instances (i.e., the unconscious and the censorship) we can now also say that disagreeable dreams contain, as a matter of fact, something which is disagreeable to the second instance [the censorship], but which at the same time fulfills a wish of the first instance [the unconscious.]"

In discussing the material and sources of dreams Freud points out that in all the dreams he has analysed there is always some reference to events of the day preceding the dream. But ordinarily these are rather indifferent and trivial events -- they are simply the excuse for the dream rather than what the dream is about. Concerning this Freud says: "Every dream is connected through its manifest content with *recent experiences*, while through its latent content it is connected with the most *remote experiences*." (That is, experiences of early childhood.) He also discusses the theory that dreams are caused by external or internal stimuli acting on sensory organs of the body -- the popular idea that "dreams come from the stomach." This idea is rejected by Freud because (1) only a small proportion of dreams actually contain content which might be related to external stimuli, (2) dreaming is not the only response that is made to such stimuli, and (3) the theory cannot ac-

count for the fact that the same external stimulus may be represented in the dream content by an extraordinary number of different concepts. But Freud cannot ignore the fact that such stimuli are represented in our dreams. He readily admits that these stimuli, depending upon their intensity and the profundity of sleep of the dreamer may contribute to the manifest content of the dream; that is, they, or rather their effects, are woven into the content of the dream. Though Freud claims he is an excellent sleeper and his dreams rarely contain evidence of external stimuli he does relate one of his dreams in this connection to illustrate this "weaving-in" process.

In connection with this dream and some similar ones Freud points out that in a certain sense all dreams are "convenience-dreams" like that of the sleepy medical student who was awakened by his landlady with the reminder that he had to go to the hospital whereupon he immediately fell asleep again, dreamt himself into a bed in the hospital and then slept peacefully on. Since he was already in the hospital why should he get up to go there? Thus Freud says "The dream is the guardian of sleep, not its disturber." The wish to sleep must always be taken into account as a motive of dream-formation, and every successful dream according to Freud is a fulfillment of this wish.

Before going into the question of the dream-work Freud directs his attention to the interesting problem of "typical" dreams -- that is, dreams which almost everyone has experienced at one time or another. He analyses three types: (1) the embarrassment dream in which we find ourselves naked or scantily clad in the presence of strangers; (2) dreams of the death of beloved persons; and (3) examination-dreams in which we find ourselves again faced with final examinations which in real life we have already passed. The most extended discussion is on dreams of the death of beloved persons, and since it is in this connection that Freud first advances what has become known as the Oedipus theory, it may be of some interest to examine his interpretation of this type of dream.

Freud first eliminates from this category all those dreams in which the dreamer remains unmoved; he says these are not really typical dreams since upon analysis it is always found that the content is simply a disguise for a variety of other wishes. "It is otherwise," Freud says, "with those dreams in which the death of a beloved relative is imagined, and in which a painful affect is felt. These signify, as their content tells, the wish that the person in question might die; and since I may here expect that the feelings of all my readers and of all who have had such dreams will lead them to reject my explanation, I must endeavor to rest my proof on the broadest possible basis."

First of all, Freud makes a distinction between present and past wishes: "If anyone dreams that his father or mother, his brother or sister has died, and his dream expresses grief, I should never adduce this as proof that he wishes any of them dead now." Freud does conclude, however, that the dreamer wishes them dead at some time or other during his childhood. Realizing

that this qualification will not go far toward pacifying his readers, he embarks on a discussion of child psychology. In treating the relationships existing among brothers and sisters he stresses the point now commonly accepted that this relationship is ordinarily not as idyllic as we would like to recall. "I do not know why we presuppose that [the relationship] must be a loving one," he says, "since examples of enmity among adult brothers and sisters are frequent in everyone's experience, and since we are so often able to verify the fact that this estrangement originated during childhood, or has always existed. Moreover, many adults who today are devoted to their brothers and sisters, and support them in adversity, lived with them in almost continuous enmity during their childhood." Taking the part of the reader, Freud argues that even granted this childhood hostility among siblings, how can we believe that the child can have so monstrous a wish as that of the death of his brother or sister? In answer to this objection he points out the very great difference between the child's and the adult's conception of death. He says: "Those who speak in this fashion forget that the child's idea of 'being dead' has little but the word in common with our own.... Being dead means for the child who has been spared the sight of the suffering that preceded death, much the same as 'being gone' and ceasing to annoy the survivors.... Even at the age of eight a child returning from a visit to a natural history museum may say to her mother: 'Mamma, I do love you so; if you ever die I am going to have you stuffed and set you up here in the room, so that I can always, always see you!'"

Again taking the part of the reader Freud asks how we are to account for this death-wish when it is directed toward the parents who bestow their love on the child and satisfy his needs, and whose preservation he ought to desire for these very egoistical reasons. In explaining this, Freud first points to the clinical evidence that the very great majority of dreams of death of the parent refer to the parent of the same sex as the dreamer. "I do not claim that this happens constantly," says Freud, "but that it happens in a great majority of cases is so evident that it requires explanation by some factor of general significance." And here he introduces the Oedipus theory: "Broadly speaking, it is as though a sexual preference made itself felt at an early age, as though the boy regarded his father, and the girl her mother, as a rival in love -- by whose removal he or she could but profit." It should be remembered that the word "sexual" here has a much broader connotation than it ordinarily has in general English usage.

But how do we account for this infantile sexual preference? For Freud the explanation lies in a combination of two factors: sexual instinct and what we would now call the socialization process, that is, the interaction patterns between parents and children. Freud has been justly criticized for what is essentially a biological orientation and for minimizing cultural and social-psychological determinants. But it is interesting to note that even in this early formulation of his theories he did recognize the importance of non-instinctual factors. This is clearly evident in the following passage:

"As a general rule, sexual selection soon makes its appearance in the parents; it is a natural tendency for the father to spoil his little daughters, and for the mother to take the part of the sons [we must remember that Freud knew very little about other cultures in which such behavior is not "natural" at all]

... The child is perfectly conscious of this partiality and offers resistance to the parent who opposes it. To find love in an adult is for the child not merely the satisfaction of a special need; it means also that the child's will is indulged in all other respects. Thus the child is obeying its own sexual instinct, and at the same time reinforcing the stimulus proceeding from the parents, when its choice between the parents corresponds with their own."

It is precisely at this point, however, that Freud shifts from an explanation of individual behavior as a function of cultural factors (i. e., interaction patterns between parents and children) as well as instincts, and embarks on an ambitious attempt to explain cultural products (in this case two tragedies) as a function of individual instincts. It is this theory which he was later to elaborate in other books and it may be noted that it is precisely these later writings that have been most severely criticized as our knowledge of cultural anthropology has increased.

Having resolved the problem of dream-interpretation by drawing a distinction between the manifest dream content and the latent dream thoughts Freud is now confronted with a new problem -- that of explaining how the latent thoughts are translated into the manifest content. It is this process that he calls "the dream-work" and his analysis of it, as we mentioned earlier, constitutes almost half the book. We cannot here give an adequate summary of this analysis, but we may select a few of the mechanisms as illustrative of the procedure.

One important aspect of the dream-work is the process which Freud terms "condensation." Upon analysis even a very short dream is found to have a very large number of latent dream thoughts underlying it. Somehow this large number of dream-thoughts become condensed in the manifest content. To explain this Freud hypothesizes the principle of *over-determination* -- that is, each fragment of the manifest content is found to be "over-determined" in the sense that it can be related to a number of different dream-thoughts.

One of the dreams Freud uses to illustrate this principle serves, incidentally, to contradict a rather wide-spread misconception of Freud's theory. In this dream and its analysis there is not reference to sexual material. Actually, of course, Freud never says that all dreams must have a

sexual motivation. In fact, he is rather careful to qualify the generalizations he makes about a number of dreams which do have a clear sexual basis. He says: "In dream-interpretation this importance of the sexual complexes must never be forgotten, though one must not, of course, exaggerate it to the exclusion of all other factors."

One of the most interesting sections in this treatment of the dream-work is concerned with the problem of *absurdity* in dreams -- for example those dreams in which we find ourselves talking to people who are really dead and even though in the dream we realize they are no longer living we somehow go on talking to them. It is Freud's contention that such absurdities are not only merely apparent and can easily be shown to make sense after analysis, but that they are actually *purposeful*, i.e., the apparent absurdity itself has a meaning. He concludes: "Thus, a dream frequently has the profoundest meaning in the places where it seems most absurd. In all ages those who have had something to say and have been unable to say it without danger to themselves have gladly donned the cap and bells. He for whom the forbidden saying was intended was more likely to tolerate it if he was able to laugh at it, and to flatter himself with the comment that what he disliked was obviously absurd. Dreams behave in real life as does the prince in the play who is obliged to pretend to be a madman, and hence we may say of dreams what Hamlet said of himself, substituting an unintelligible jest for the actual truth: "I am but mad north-north-west; when the wind is southerly I know a hawk from a handsaw." Thus my solution of the problem of absurdity in dreams is that the dream-thoughts are never absurd -- at least not those of the dreams of sane persons -- and that the dream-work produces absurd dreams, and dreams with individually absurd elements, when the dream-thoughts contain criticism, ridicule, and derision, which have to be given expression."

In the third section of the book -- "The Psychology of the Dream-Processes" -- Freud attempts to fit his dream theories into a much broader psychological scheme. This is the most difficult, the most tenuous, and, in some ways, the most rewarding part of the entire work. We have neither the time nor the competence to discuss it, but it may be possible to indicate very briefly its significance. Up to this time, the "psyche" or "mind" that psychologists had been busily investigating was almost completely coterminous with consciousness. So long as this was the case a good deal of human behavior remained inexplicable or, more conveniently, "out of bounds" as far as psychology was concerned. Thus, there would be very little point in investigating such phenomena as dreams, delusions, fantasies, hysteria and other neuroses since they were simply "irrational" or non-psyche activities. For Freud, however, the psyche was not synonymous with consciousness. In fact, consciousness for Freud represented a relatively small proportion of total psychic activity. This is not to imply that Freud "discovered" the unconscious -- certainly other investigators before him had been concerned with non-conscious processes. But Freud not only drew attention to the importance of this relatively unexplored area of the psyche, he was really the first per-

son to develop a method for exploring it systematically. Moreover, this was a method that could be used with a wide variety of phenomena, and through the use of this method Freud more than any other person investigated and demonstrated the intricate relationships between unconscious and conscious psychic activity. In books such as *Psychopathology of Everyday Life* in which he demonstrates the relationship between such normal phenomena as forgetting, slips of the tongue, and other errors and unconscious motivations, and *Wit and its Relation to the Unconscious*, Freud went far towards breaking down traditional distinctions between the "normal" and "abnormal" and toward grounding diverse mental phenomena in a common psychological basis.

Turning now to our third task, there is time to suggest only very briefly the opinions of some critics with respect to Freud's influence on creative writing. As was mentioned earlier, the initial reaction to Freud's writings was for the most part either silence or derision. This was related, as one might expect, to prevalent attitudes toward the discussion and investigation of material with a sexual content or relationship. Such attitudes are clearly evident in many of the reviews of *The Interpretation of Dreams* which appeared in American magazines. For example, a review in the *Nation* in May, 1913, reads:

"In his other writings our author has given evidence of a morbid tendency to overemphasize the potency of erotic influences in all of experience, and in the field here considered the results of this preconception are conspicuous, leading him to improbable and revolting explanations."

Again, in another review and with a flash of wit that would probably (except for its content) have delighted Freud, a Professor Fite says: "I find that a day or two ago I wrote 'under the service' for 'under the surface'. A livelier imagination than my own may call the substitution humorous; the Freudian, who can discover a sexual motive in the binomial theorem, will doubtless find it obscene."

Not all the reviews were so flippant, however. One by Horace M. Kallen points out that though Freud's theories are open to attack from all sides, the same thing might be said for Darwinian theory. He concludes: "The ultimate test of Freudism lies not in argument but in its clinical adequacy, and in the ease and simplicity with which it applies to other problems and illuminates other obscurities in the psychological jungle. To me, at least, this 'interpretation of dreams' is quite acceptable in principle and inconclusive in concrete detail."

One of the first commentaries of the influence of Freud on American fiction that I was able to locate was written, oddly enough, by a Mississippian, Maxwell Bodenheim. According to recent newspaper reports Mr. Boden-

heim has met with what many natives must consider a "timely" end. But it is rather difficult for me to reconcile the Bodenheim of this 1922 article with the man described in the obituary of the Jackson paper where he is depicted as the author of "many sexy novels and poems." For in this article Bodenheim is casting a jaundiced eye over what he feels to be the bad effect of psychoanalysis on American fiction -- namely, that the latter has become preoccupied with sex. He says:

"American novels have rapidly formed themselves into the following classes: the sensual melodrama, written in an awkwardly forced style and unsuccessfully wavering between Whitman and Baudelaire, such as Waldo Frank's 'Rahab,'; the novel in which sensuality adopts a heavy, clumsy, and naively serious mien, such as the stories and novels of Sherwood Anderson, in which young men lie upon their backs in cornfields and feel oppressed by their bodies, etc.; the novel in which sensuality becomes half-flippant and half sentimental and plays the youthful ape to sophistication, such as the creations of F. Scott Fitzgerald; the novel in which sensuality, sordid and undressed, fights with longings for business success, a proceeding that occurs in the ponderous fiction of Theodore Dreiser; the novel in which sensuality sneers at itself and wonders whether the gain is worth the effort involved, a quality recently exhibited in Ben Hecht's 'Erik Dorn'; and endless novels in which sensuality runs after romance, nobility, and domestic bliss."

Two years later a reviewer for the *Saturday Review of Literature* echoes these sentiments in more genteel language: "...and yet, in this literature generally, it must be admitted, there is an accent which is repulsive to the reading public; it deals too frankly with the aberrations of sex, in the specific sense of the term. The literary adaptors of psychoanalysis have very boldly and with a rather crude art translated the most sensational features of the science bodily into literature, where they are calculated to become accessible to the general public."

Looking back from the vantage point of another generation these reactions are understandable. It seems highly probable, perhaps even inevitable, that in the first flush of enthusiasm for the "new psychology" many writers of the period would do a less than creditable job of translating their new knowledge into prose and poetry. It should be remembered, too, that many writers had picked up their knowledge of Freud's theories at second or third hand after they had already undergone considerable distortion.

At the same time, however, there were writers of high stature whose work was being influenced by the theories of psychoanalysis and particularly by *The Interpretation of Dreams*. That this was so should not be surprising since one of the writer's primary problems involves the motivations of his characters. Some of these writers, -- Proust, for example -- were already moving in the same direction as Freud and independently of him. Most critics are of the opinion that Proust discovered "free association" before he had ever heard of Freud; Helen McLean says: "The perfect example of free association which he gives us in the beginning of *Du Cote de chez Swann* has all the earmarks of a personal discovery." This refers to a passage in the early pages of *Swann's Way* in which the hero (i.e., Proust) is sipping a spoonful of tea in which a few crumbs of *petites madeleines* had been soaked. At this taste a feeling of intense pleasure invades all his senses and he is carried back to a moment of childhood which he had long forgotten.

Another writer whose work shows the influence of Freudian theory is James Joyce. In *Ulysses* he explores various levels in the conscious and unconscious life of his characters. In *Finnegan's Wake*, which consists of a series of dreams, Joyce uses all the devices of condensation, displacement, etc. discussed by Freud in the chapter on the dream-work. For this purpose, in *Finnegan's Wake* words are used as things, just as they are in the dream, and the sounds of words are extremely important in evoking visual images. Some indication of Joyce's skill in paralleling the dream-process may be seen -- or perhaps we should say, heard -- in the following excerpts. The dreamer in *Finnegan's Wake* is Humphrey Chimpden Earwicker, (H.C.E. - Here Comes Everybody), the common representative of all men. Joyce tells us that Earwicker's unconscious dream life proceeds "In the name of the former and of the latter and of their holocaust. Allmen." We find distorted lines from Shakespeare in Earwicker's dream: "Where it is nobler in the main to supper than the boys and errors of outrager's virtue." In one passage in the text Joyce explains his method and says that it has enabled him to introduce an assortment of linguistic oddities, historical tags and ends, "...once current puns, squashed quotatoes, messes of mottage, unquestionable issue papers..." Throughout the book there are scattered direct references to psychoanalysis, e.g. a description of girls as "...yung and easily freudened."

Bernard DeVoto claims that "neither Proust nor Joyce would have written as he did without the instruments that Freud fitted to their hands, and very few novelists of the last two decades have failed to make use of them -- even when their use was unconscious or merely imitative." Admitting that Freud's earliest influence on creative writing was on content and method, DeVoto nevertheless feels that ultimately the "deeper understanding of how men feel and why they act will prove to have been Freud's greatest assistance to imaginative literature."

Hoffman's scholarly treatise on *Freudianism and the Literary Mind*

is a thoughtful documentation of de Voto's claim. In it he examines in great detail Freud's influence on Joyce, D. H. Lawrence, Sherwood Anderson, Waldo Frank, Franz Kafka, and Thomas Mann.

Hoffman points out that "the interpretation of man as an irrational, or at the most as a weakly rational being, has been a popular determinant of early twentieth century attitudes." As Mann indicates, these attitudes were a reaction to the classic rationalism and intellectualism of the previous century. And it is quite evident that the literature stemming from this reaction was given great impetus by Freud's discoveries. There are those of us who may feel that in thus contributing to what we may call an essentially pessimistic or cynical view of man Freud has done a disservice to humanity. But let us not confuse the scientist with the disease. The last thing that could be said of Freud is that he was an anti-rationalist. On the contrary, the whole purpose of his therapy is to strengthen the ego-forces so as to bring unconscious impulses under the control of mental processes which are in touch with social reality. Despite all the willful misunderstanding of his theories, nowhere does Freud say that we study the unconscious in order to liberate it and become overwhelmed by it. His position is, rather, that unless we are aware of the role of unconscious motivation in human behavior we cannot hope to control it successfully. In this view he is on the side of the angels -- and I am sure most of us are quite willing to shove over a little and make room for him there.

NEWS AND NOTES

JOINT SOCIOLOGY STAFF MEETING. The staff of the department of sociology and anthropology of the University of Mississippi met on the campus with the staff of the department of sociology and rural life of Mississippi State College for their regular semester meeting on Saturday, March 6. "These joint staff meetings have been held each semester for the past six years. The cooperative planning of these two departments resulted last year in approval by the Board of Trustees of the Mississippi Program in Sociology and Anthropology," stated Dr. Harold F. Kaufman, head of the department of sociology and rural life here. "This is an integrated program of graduate training and research," Dr. Kaufman continued. "This year two seminars have been held. In the fall semester Dr. Kaufman met with graduate students of both departments at the university. This semester Dr. Robert L. Rands of the university is meeting graduate students of both departments on the campus here." The joint staffs are also engaged in cooperative research. One is a population study in which Dr. Morton B. King of the university, Dr. Harald A. Pedersen of State College, and Dr. John Burrus of Mississippi Southern are engaged, and the other is a comprehensive analysis of health organization and practices in Scott County, Mississippi, conducted by the State College department with Dr. Julien Tatum of the university cooperating. The agenda for the Saturday meeting included a discussion of problems in the development of advanced graduate training, and the evaluation of the interschool seminars. Also considered was the role of the Mississippi sociologists in Southern sociological activities. Dr. Morton B. King, chairman of the department at the University of Mississippi, is president-elect of the Southern Sociological Society. Attending the Saturday meeting were the five staff members at the university and the nine staff members at State College. The staff members at the university are: Dr. Morton B. King, Jr., Dr. Julien Tatum, Dr. Alfred Schnur, Dr. Robert L. Rands, and Kirk Danserau. The staff members at State College are Dr. Harold F. Kaufman, Dr. William Paul Carter, Dr. Harald A. Pedersen, Dr. Marion T. Loftin, A. Alexander Fanelli, Albert E. Levak, Miss Dorothy Arltman, Richard D. Tannehill, and Willis Joe Robertson. The graduate students of both departments were invited to attend. Also Dr. John Burrus and Dr. John Allen of Mississippi Southern College and Dr. Evelyn Ellis of Mississippi State College for Women accepted an invitation to attend the staff meeting.

MISSISSIPPI HISTORICAL SOCIETY. Members of the history and government staff at Mississippi State attended the annual meeting of the Mississippi Historical Society at Biloxi, February 26-27. They were John K. Bettersworth, who is a director of the society, W. J. Evans, Glover Moore, Harold S. Snellgrove, a member of the 1954 program committee, J. H. McLendon, who is bibliographical editor of the *Journal of Mississippi History*, W. M. Belote, and Irby Ellis. Mrs. Box, an M.S. graduate of State College in 1952, read a paper on "Mississippi Travelers, 1800-1860." Next year's meeting will be held at Vicksburg. Glover Moore is chairman of the program committee for 1955.

NEW GRADUATE ASSISTANTSHIPS. A number of appointments to graduate research assistantships and graduate assistantships in the social science field have been granted at Mississippi State College for the spring semester. The newly appointed graduate research assistants are Glenn E. Crowe, Braggadocio, Mo., agricultural economics and Luther C. Swords, New Albany, sociology. Holding graduate assistantships are Paul E. Fitzgerald, Okolona, geology and geography; Howard F. Hamill, Sturgis, business administration; Oscar L. Paulson, Jr., Yazoo City, geology and geography; Guy T. Peden, Jr., Meridian, business administration; and Mrs. Katherine R. Weaver, Sherman, history and government. Two re-appointments from last semester were also announced by Dr. Drennon. They are Walter Berryhill, Greenwood, geology and geography; and Douglas E. Edwards, geology and geography.

NEW SCHOLARSHIP AWARDED. Dewitt Hicks of Sledge and Clarence McMillin of Jackson -- both pre-law majors at Mississippi State -- have been awarded three-year scholarships valued at \$1,350 each to Tulane University Law School. Hicks is vice president of the Student Association and a member of Omicron Delta Kappa, national honorary leadership fraternity. A member of Phi Eta Sigma, he was named to "Who's Who Among Students in American Colleges and Universities" this year. He has served as president of Sigma Chi fraternity, president of the Arnold Air Society, president of Chi Lambda Rho, vice president of the Colonel's Club, and he was named the outstanding Air Force ROTC junior last year. McMillin is a member of Pi Kappa Alpha fraternity, a member of the Barrister's Club, cadet major and squadron commander in the Air Force ROTC, and he is a member of the special speech class selected to represent the college in speaking engagements.

HOSPITAL STUDY. A vast improvement in the hospital facilities available in Mississippi since 1945 is shown in a bulletin entitled "Hospital Facilities in Mississippi," recently published by the Business Research Station of the School of Business and Industry at Mississippi State College. The author is John J. MacAllister, head of the industrial and institutional management department of the Business School and associate director of the Business Research Station. In his foreword to the study, Professor MacAllister points out that in 1945 the station published a smaller bulletin on "Hospital and Medical Facilities in Mississippi." "Since the first bulletin appeared in 1945, Mississippi has launched a hospital program second to none in the nation," Professor MacAllister states. "The Hill-Burton Act has been of material assistance in the development of hospital facilities in the state. Incidentally, Mississippi was one of the first states to have a hospital program approved under the Hill-Burton Act." Professor MacAllister credits Charles W. Flynn of Jackson, executive secretary of the Mississippi Hospital Association, with suggestions and help in collecting statistical data. Robert Graves of Merigold and Hilliard Slater of Pascagoula, students in the industrial and institutional management department, prepared the charts and tables used in the bulletin.

STEPHEN D. LEE MUSEUM. A museum has been established at State College by the Stephen D. Lee Camp, Sons of Confederate Veterans. It is located on the second floor of Temporary Building D, Room 2. The museum will not be open to the public until repairs have been made on several historical objects which it contains, among which are an old loom and a hack coach which once operated in Mississippi.

PROFESSOR GLOVER MOORE, of the History and Government Department, addressed the Starkville Woman's Club on March 23 on the subject of Southern Libraries, with particular reference to the libraries of Mississippi and Starkville. Professor Moore explained the purpose of the Mississippi State College Friends of the Library and suggested that a similar society might be of benefit to the Oktibbeha County Library, especially the Negro branch of this library.

DR. HAROLD F. KAUFMAN, head of the division of sociology and rural life, gave two addresses at the University of Kentucky on February 3 and 4, during the Farm and Home Week. He discussed community development programs in the southeast with special emphasis on the work in Mississippi. Dr. Kaufman is now leading a project in the Social Science Research Center on the study of community development programs in the Southeast. "Preliminary findings show that at least seven of the nine Southeastern states have community programs organized around contests; seven states have rural programs, and four have urban programs," he said. "Community development in its research, extension, and resident teaching phases has been a major concern of the department of sociology and rural life since its establishment five years ago."

DEAN ROBERT C. WEEAMS, JR., of the School of Business and Industry at Mississippi State, presided over the meeting of the Advisory Council of the Mississippi Employment Security Commission at Jackson, on January 8. Dean Weems is chairman of the Advisory Council. On February 10-12, Dean Weems attended a Central Banking Seminar held by the Federal Reserve Bank of St. Louis.

DR. JOHN K. BETTERSWORTH, professor of history and government at Mississippi State College, has received an "Award of Merit" from the American Association for State and Local History for his recently published *People's College, a History of Mississippi State*. The award is one of a series made annually by the association for "specially reliable contributions to state and local history." The awards for 1952-53 were announced by the chairman of the awards committee, Clifford L. Lord, of Madison, Wisconsin. The award to Dr. Bettersworth is one of three made in the South Central States. The citation specifically covers "books of localized subject matter making the greatest contribution to the scholarly history of the area." Dr. Bettersworth's history of Mississippi State College, which was published last summer by the University of Alabama Press, is the author's second book, his first being *Confederate Mississippi*, which was issued in 1943 by the Louisiana State University Press.

HARALD A. PEDERSEN is author of a recently published Experiment Station Bulletin (Circular No. 190) entitled "Selectivity in Rural-Urban Migration."

-BURROW PENN BROOKS, dean of the School of Education at Mississippi State, participated in the district meeting of the National Commission on Teacher Education and Professional Standards in New Orleans January 4 and 5. Dean Brooks continues to discharge important responsibilities, both state and regional, in the development of better educational opportunities. He is a member of the Kellogg Foundation's Commission for the Improvement of School Administration, and a member of this commission's Special Committee to Study In-Service Research. December 8-15 he attended a meeting of the Kellogg Foundation commission in Gatlinburg, Tennessee. December 1-4 Dean Brooks attended the Memphis meeting of the Southern Association of Colleges and Secondary Schools. At this meeting he was elected to the Commission on Secondary Schools. Dean Brooks was already a member of the Executive Committee of the Southern Council on Teacher Education. For 10 years he had served on the Executive Committee of the Commission on Curricular Problems and Research, and in 1949 he was chairman of this committee. He was recently re-appointed to serve another three-year term on the State Accrediting Commission. He has been a member of this commission, which passes on accrediting both elementary and high schools, ever since its organization in 1950. For 15 years before that, Dean Brooks had been a member of the High School Accrediting Commission, which in 1950 was merged with the Elementary School Accrediting Commission.

NOTE: The series of sketches by President Ben Hilbun on "Cracker's Neck" begun in the January issue will be continued in subsequent issues, beginning with the July number. The reception of the initial installment was most enthusiastic, and the continuation of this series is being eagerly awaited.

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